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The health visitor has no narrow, clean-cut, and easy duties to perform. She has to watch the health interests of expectant and nursing mothers, and of the offspring up to five years of age; and, therefore, she must be able to give advice and assistance in a great variety of matters. She may have to organise a centre and assist in conducting it, and in giving health-talks to mothers on true educational lines. For the discharge of these duties her training will demand a knowledge of elementary physiology, personal and domestic hygiene, the special hygiene of the infant and of the expectant and nursing mother, the essential facts of several communicable diseases (more particularly measles, whooping-cough, summer-diarrhœa, and tuberculosis), the causes of infant mortality, infant ailments and simple home-nursing (general, fever, and maternity), elementary first-aid, and sanitary law in its application to her work in the home and its occupants. She must also possess a close practical acquaintanceship with domestic science (especially of simple artisan cooking, and the cutting, making, and repairing of infants' and children's garments). In addition to being well and practically trained in all these matters she must know much of the life circumstances of the poor, and be acquainted with all the many agencies and institutions (voluntary and otherwise) dealing with child-welfare, relief, and medical treatment. She must also collect particulars and keep records with relevancy, method, and precision.

The most important branch of the services of a child-welfare worker is the difficult branch which relates to home visitation. At these visits the worker sees the infant in its real setting; she may have much to take exception to, and she meets the difficult type of mother who, for several reasons, will not visit a centre. To be effective in this branch of work she needs an intimate knowledge of the life-circumstances of the masses, she must be essentially practical, and she must possess that personality, tact, and knowledge of human nature which will enable her to create "the atmosphere" in which alone she can obtain results.

It is therefore no easy and simple training that the duties demand of her, and the activities of her work involve a wide range of technical knowledge. Judged from the standpoints of these requirements few health visitors receive a training which is sufficiently attuned to the needs of their future work. The training is often out of perspective, and is generally too narrow and insufficiently practical. Although there are centres where worthy efforts are being made, training centres generally are discouraged from raising the standard of the training given by the circumstance that persons obtain appointments as health visitors who have received no special training for the special duties. Up and down the country we find many women engaged in this difficult work who have never obtained a health visitor's certificate. The nurse trained in curing and not in preventing ill-health has but little qualification for the work, for, like the bulk of midwives and district visitors, she is lacking in the many-sided knowledge which the duties demand. I am aware that there are some nurses and midwives who receive a special training that goes farther to qualify them for the work of a health visitor than is the case with others, but they constitute a minority, and even with them additional special training is necessary. The subject of infant feeding alone demands considerable practical experience; the special needs of different infants may vary widely, and the health visitor has to advise mothers in their homes, often (especially in rural districts) without any guidance from a medical officer at a centre.

EXISTING PROVISIONS FOR TRAINING OF HEALTH VISITORS.

Allow me to offer some critical comments upon existing provisions for the special training of health visitors before I pass to my suggestions for improvement. A health visitor cannot be equipped by means of lectures and a few visits to a baby centre, as some training provisions seem to assume. I do not say that lectures do not possess a value; I only insist upon their very limited value and the quite subsidiary place they should fill in the training of the class of workers with which I am dealing.

Health visitors, like sanitary inspectors, suffer from a serious deficiency in their practical training; many of both classes of workers gain their certificates too much from lecture and demonstration courses, in which they themselves do little more than take notes; and so the majority have to learn the practical side of their work, in its unfamiliar setting, after their appointment to a responsible official post. He and she slowly make themselves more or less fit at the expense of those they advise and serve, but they seldom correct the evil legacy of a narrow and defective training. The training for an office or occupation in life should surely differ from the teaching of a subject to students at college. In the former case it is essential that the knowledge should be thoroughly practical, and based, as far as possible, on observation and practical experience. At least half of the time devoted to the preparation for any branch of social work should be given to practical work, *and the qualifying examination should always thoroughly test this.*

The health visitor works on human material, in a variety of environment; and yet, in the past, opportunities for this social study have been either scantily provided or ignored. A training which unduly narrows the outlook of such a social worker not only curtails efficiency, it also reduces interest; and she is not properly equipped if in her training course the subject of social study is not introduced suitably to meet her needs.

Different Functions of Health Visitor and Nurse.

I can see no justification for the tendency to unduly develop the training of a health visitor in nursing work; her duties have little to do with nursing, and least of all with hospital nursing under institutional conditions. The slight nursing training demanded of a health visitor can best be provided by a four to six months' training course as a probationer at a sick children's hospital; and some of these institutions have made arrangements for this training

[1] Lectures I. and II. were published in THE LANCET of May 11th (p. 663) and 18th (p. 696), 1918.

for candidates of 18 years and upwards. Failing this, the simple home nursing training she needs could most usefully be acquired from a fully trained and busy district nurse.

We shall all agree that satisfactory results can hardly be expected from one who serves as a health visitor after no other practical experience than that obtained from nursing in a general hospital. I would ask where in her training does such a person gain sufficient practical experience of the following most essential items of the health visitor's work: the hygiene of the expectant and nursing mother, the feeding of infants (breast and hand), domestic hygiene, and home circumstances of the poor? And will anyone maintain that she can be of much value in the special work of a health visitor without more of such practical experience and training? I am satisfied that the training of nurses is generally well designed to meet its object, which is to furnish competent nursing for sick children or adults; but this has but little relation to the actual work of a health visitor.

That a limited period of such training is useful I admit; for it develops observation, it trains in the detection and diagnosis of conditions that may demand medical or hospital treatment. My point is that such training, even when spread over a long period, can never be taken as equivalent to the special training which the health visitor needs for her special work. At least four months of such special training should always be demanded of a nurse before she is allowed even to sit at the examination for the health visitor's certificate; indeed, six months is a short enough period for all the practical work and special study that she stands in need of.

One of the health visitors at present working under my direction was in a large general hospital in London for five years (first as a probationer and later as a charge nurse), she then acted as a nurse for three years at a children's hospital; and she assures me that, even when she started her special training in "baby work" at the end of this experience she knew "practically nothing about infant feeding and had no experience whatever of domestic hygiene and home visitations." It seems to me essential that we should keep the different functions of the health visitor and the nurse before us if the work of infant and child welfare is not to suffer.

Results of Unsatisfactory Training.

There is a tendency at some training centres to almost wholly submerge the subject of personal hygiene in physiological teaching; but while it is true that you can only justify and explain a certain amount of hygienic practice by physiological facts, the teaching of physiology often misses these applications and renders a very poor service to the teaching and training of the practical hygienist. The fact is the two subjects should always be coördinated; but if one is to be merged into the other it is certain that, in the practical politics of the non-medical public health worker, it is selected physiological facts which should be merged in hygiene. Only such a knowledge of physiology is demanded as is necessary to make hygiene intelligible; and, generally speaking, too much time is spent by this class of worker upon non-essential physiological matter.

As the result of much unsatisfactory training I have grown from my experience to regard the selection of a health visitor as much of the nature of a lottery; to attach little real value to much of the present training received; and to realise that the only way by which I can ensure really good services is by obtaining a specially trained individual who has already been engaged in official work for a year or two. I believe that the time is near at hand when a better training for this important work will be demanded. "Reconstruction" is in the air: and it is impossible to believe that imperfectly equipped provisions will continue to be sanctioned now that the value of infant life and the difficult work of preserving it are more widely appreciated; and now is the time to lay the foundation of a scheme which from its quantitative and qualitative provisions will ensure efficiency in this national work. Its difficulty can only be fully appreciated by those whose work has intimately touched the lives of the poor; and it is the difficulty in obtaining results that demands high-quality training of the workers.

Fortunately this branch of service has generally attracted a good type of well-educated woman worker, in whom a natural liking for the work is allied to a high level of zeal and earnestness. With such a class of student a good standard of training is not difficult to attain to. Not only does the partly trained woman have to train under difficulties while actually engaged in her duties, and at the expense of the public she has to serve, but when once appointed she remains in office and often continues her calling without attaining to a satisfactory standard of efficiency. And so the work suffers, and with it the status and emolument of such workers; and good training provisions are discouraged.

Suggestions as to Training of Health Visitors.

Although I take the view that the appointment of those with no special training should cease at once, I realise that just now is scarcely the time seriously to increase the scope of the training of a body of workers who are urgently needed in considerable numbers; but it should not be long before it is possible to do this, and it is well that even now we should consider and determine a future policy in such an important matter.

The State needs the best work in the health interests of the child, and therefore the best possible candidate should be attracted to it. Good personality, enthusiasm, and tact, are essential; and she must be a woman of character, with a good secondary school education. If she is found to be deficient in any of these respects she has no business to become a health visitor; and if she does do so (as she will in many cases) her diary will *appear* to show a good record of work, while, as a matter of fact, her results will be very meagre. The public will reap the benefit of this greater and general efficiency, and they must pay the price for it. It cannot be provided unless there is always given a commencing remuneration of £100 a year, and unless training centres are encouraged to provide better practical training. The Local Government Board allows local supervising authorities to make grants towards the training of midwives, and the Board of Education may assist prospective school teachers. Why should not the training of health visitors at approved centres receive some such recognition and help at the hands of either local or central bodies? There is no class of work which has a better claim, or which stands in more need of bursaries and scholarships for promising and keenly-interested students. The sanitary inspector is almost invariably earning money during the whole course of his training; it is the exception for the health visitor to be doing this.

Course of Training.

A large number of young women who commence their studies for health visitors have received no training since they left school. It is obvious that such young women require a long course of training, and it is not unreasonable to demand an absolute minimum of 16 months (12 months at a special training centre and 4 months nursing in a children's hospital or with a district nurse). It cannot be too strongly emphasised that all the necessary technical training must be strong on the practical side and afford ample opportunities of acquiring a real acquaintanceship with the home setting in which all the future work is to be done. For the last six of the 12 months at a training centre the candidate should spend at least one-third of her time at a welfare centre, where practical experience of, and instruction in, maternal and child-welfare work is linked up with her other studies. During this period she will assist at the consultations, the baby weighings, and classes for mothers, will visit at the homes, and generally make herself acquaintsd with the various organisations and other provisions which touch maternal and child welfare. The candidate should be accompanied, guided, and instructed in many of her home visitations by a highly trained and experienced health visitor, and she should be admitted to a qualifying examination for a health visitor only when she is "signed up" for having personally undertaken a considerable amount of this practical work.

A social study course, attuned to the needs of the health visitor, should be provided at every training centre. This should be conducted by a special teacher; should embrace addresses by experienced social workers; and many "observations," to be followed by discussions, should be personally conducted by the teacher. The granting of a qualifying certificate on a written examination and a short oral one should cease; a practical examination is also required in all cases.

In addition to these 16 months of systematic training most candidates should be advised to devote further time to special training where this is possible, as there is a demand for health visitors who can also act in the capacity of: (*a*) sanitary inspectors; (*b*) local inspectors of midwives; or (*c*) who will devote a great part of their time to children suffering from measles, whooping-cough, or tuberculosis. Therefore an additional six months should be devoted by most candidates to midwifery training or to nursing training in either a fever hospital or tuberculosis sanatorium, or an additional three months to acquire the certificate of a female sanitary inspector.

Training Centres.

I would welcome the establishment of one model training centre, with its own and associated activities (child-welfare and maternity centres, hospital provisions, home visitations, &c.), *all affording the maximum of training facilities.* The whole aim of the scheme would be the fullest realisation of the best calculated provisions and methods, under the most skilled advice, for the training and examining of this most important group of public health workers. It would be a fitting national memorial to the fathers who have fallen in the Great War, and would serve as a model to which the many other training centres would turn for example and guidance.

In my opinion the following *small-scale* provision for *practical* work in connexion with any training centre would be very suitable:—

(*a*) A day nursery for healthy babies and children up to 5 years of age. Mothers should be encouraged to call and give their infants the breast when this is practicable.

(*b*) Two small wards for sick babies who are not sufficiently ill for hospital treatment.

(*c*) Out-patient clinics for expectant mothers, infants, and children. The requirements of training should be kept prominently in view in every department of this work. Even at the medical consultations candidates should be present (in rotation) to receive instruction.

(*d*) From this centre home visitations would be made.

At this work the ordinary student would spend much of her last six months and a certificated nurse or midwife at least four months, and preferably six.

As to midwives, by our efforts to prepare them to give suitable advice to the mother upon antenatal and infant hygiene we gain valuable assistance from a body of workers who make an exceptional appeal to the mother. It is from the midwife that over 50 per cent. of the mothers receive the very first advice and lesson in the feeding and care of the baby, for they come directly under her influence for several weeks before and for at least ten days after her confinement. These grave responsibilities can only be properly fulfilled by capable women adequately trained, and the recent revision of the rules of the Central Midwives Board with reference to training should favour a better knowledge in these matters. But the training of the midwife does not qualify her in all the branches of the work of a health visitor; it is designed solely to produce capable midwives. Take, for instance, the subject of infant hygiene (including infant feeding). Commonly the midwife only sees the baby for ten days, and what she is taught will generally suffice to tide over this short period, but in the case of the infant most of the difficulties of management arise later on, and she has not been trained to deal with these.

THE SANITARY INSPECTOR.

The official duties and work of a sanitary inspector are fundamentally different from those of a health visitor; and the latter's duties call more for personality and a knowledge of the social setting in which she has to make her essentially health missionary appeal. In the case of both groups of candidates a reasonable time-limit for training demands much concentration on essentials. Even then the work is difficult and wide enough for the sanitary inspector class of student, if a proper perspective is taken of its demands. It is a fact that can hardly be disputed that the present efforts at the training of sanitary inspectors are at once too comprehensive and too narrow; too comprehensive in that they embrace non-essential matter; too narrow, in that they do not provide a sufficient training in essentials.

The sanitary inspector mostly comes from the higher artisan classes; he is often earning a living in some branch of the work connected with building construction when he begins his training for a sanitary inspector's certificate. Evening classes have therefore to be provided; and, unless a candidate can show (as he often can do) some previous knowledge and experience of one or more branches of the work with which the course deals, the training course of 6 to 9 months is too short; it should not be less than from 9 to 12 months, having regard to the fact that the student can devote little more than certain evenings a week to his studies and training. In this branch of training, as in others, we rarely reach the stage of building the edifice; we stop short at the accumulation of a certain amount of material—some necessary material is missing from the structure, and some is there which is not required.

Parts of Training that can be Reduced.

As to the matter in the present training course of the sanitary inspector that may be lightened, the important work of house-to house inspection is seldom prosecuted to a sufficient extent in any district because the sanitary inspector has too many other calls upon his time. This work would be benefited by relieving him of what may be termed his epidemiological work and giving it to a female sanitary inspector, health visitor, or specially trained nurse. I would also relieve him from the study of matters which pertain to the specialist engineer. I refer to installations for sewage purification (excepting the principles and details of the small and simple provisions), of ventilation and warming (except in their strict application to the home and workroom). It is a serious reflection on his training that the sanitary inspector can often tell you more about the complicated schemes of mechanical (plenum and vacuum) ventilation designed for large buildings than of the practical expedients for ventilating a living-room or bedroom. There is no need for him to acquire the technicalities of the architect or of the specialist sewage, ventilating, or warming engineer. Again, his knowledge of sanitary law, that bugbear of the sanitary inspector, should be restricted to that which bears directly upon his work and duties. At present he is expected to go beyond this, into matters which only concern the medical officer of health and the clerk.

In the future the sanitary inspector will have more circumscribed duties than in the past, but a better standard of knowledge and training for these duties will be demanded. His work in connexion with notified disease will be undertaken by medical officers on the one hand and nurses or health visitors, as their outposts, on the other. The duties of the sanitary inspector should be practically confined to the sanitation of premises and their environment, and food work; and, in small areas, the work of disinfection.

Proposals in Regard to Increased Instruction.

These curtailments of study above suggested would make room for the increased instruction called for in other particulars. Let me refer to what are, in my judgment, the chief deficiencies of most, if not all, of the present training schemes for sanitary inspectors.

Elementary science training is essential to the comprehension of practical sanitary science; and, therefore, suitably equipped laboratories and museums are essential to training centres. Applied science is at present superadded upon too flimsy a foundation of pure science. In examinations it is often pitiable to witness efforts to explain the workings of simple sanitary apparatus and appliances, because of the candidate's lack of knowledge of some elementary facts of physics and chemistry. A knowledge of the scheme of Local Government and a better practical training in the making of sanitary surveys and reports are also necessary. The training is very weak on the practical side. The sanitary inspector should be competent to deal with any problem of sanitary construction, and should always possess a *real* and *intimate* knowledge of the nature and uses of the various building materials. Not only must he know how to make inspections, apply tests, and furnish reports, he must also be entirely competent to criticise, direct, and advise upon all details of reconstructional work. At present the recently certificated man who can do all this is the exception, not the rule.

But perhaps the weakness of his practical training stands out most markedly in the matter of food inspection. This is a very important branch of the work of a sanitary inspector; and some take a special course of instruction and obtain an extra certificate of proficiency in this subject. The need and existence of such an extra certificate is an admission of the

insufficient training in this respect, which the large majority of sanitary inspectors receive; indeed, their knowledge is very scant and only becomes really useful by subsequent official experience. It is not too much to ask that *every* certificated sanitary inspector should have received the instruction provided for this extra certificate.

The neglect of rural sanitation is another defect in the training. Judging from their training manuals and training courses, one would be led to the conclusion that every sanitary inspector is destined to practise in large urban areas, and so when he starts his work in a rural district he generally thinks and acts in terms of urban provisions; his work is in a novel setting which is almost foreign to him, and he is generally "impossible" for some time.

Need of Individual Training: Apprenticeship.

Often the sanitary inspector is an indifferently educated young man. Therefore the value of a training course which consists almost entirely of lectures (of little value except to the trained student or experienced individual) and demonstrations (supplemented by a few arranged visits), which leaves the student to drift along with text-books and information gained from his own unguided observation and inquiries, has serious limitations. Indeed, it cannot effect its aim, and it is owing to the defect of such courses that the student's knowledge is not sufficiently real. Such candidates need individual training, guidance, and assistance; they cannot be dealt with satisfactorily on the wholesale scale, and for this reason, as also because the practical training is so deficient, less formal tutorial instruction is desirable, and this means a serious limitation to the numbers in any class. This class of students, thus trained, would soon show better results, both at the examination and on taking up their duties. Private tuition often proceeds somewhat on these lines; and it is for that reason that it often is needed to supplement the usual methods of training-centres.

But apart from the limitations in value of a lecture, qua lecture, think of the amount of matter which has to be dealt with in the limited number of lectures provided! One finds, for instance, that such subjects as "infectious diseases" and "ventilation and warming," are each dealt with in the space of one hour. What can be the value of such a hurried and restricted survey to the uninitiated student; and what opportunities has the lecturer to supplement text-book statements from his own experience?

But what I regard as of prime importance in securing the better training of the sanitary inspector is that he should be required to serve a form of apprenticeship to an experienced sanitary inspector in office. A period of at least four months may suffice in some cases, and during the whole of this time he should be associated with the sanitary inspector in his work for *a minimum of six hours a week*. There should not be great difficulty in arranging for this. Few sanitary authorities would object to such facilities being offered for training future public servants, if the Local Government Board expressed its approval and sympathy with the scheme.

Women Sanitary Inspectors.

A few years ago women sanitary inspectors were added to the Public Health Service. Be it said at once that the training for a woman sanitary inspector in precisely the same field of knowledge as the male inspector is absurd and indefensible. The present training of women for a sanitary inspector's certificate had better cease altogether if it cannot be made a separate woman's certificate, with the training based on the special items of sanitary inspector's work which the female official is called upon to undertake. When she acts as a sanitary inspector her duties are restricted to the detection and reporting of nuisances in and about dwellings; the inspection of factories and workshops where women are employed; the inspection of registered houses let in lodgings; and the making of inquiries and of giving advice with reference to notifiable infectious disease.

What is the motive therefore in making her train and show an equal proficiency with the male inspector in such subjects as building construction and material, drainage reconstruction work, sewerage and sewage works, slaughter-house inspection, &c.? Why not rather aim to raise her knowledge to the highest pitch in *the work she has to do*, rather than prejudice her knowledge of this work by training her to a poor and diffuse knowledge of an unnecessarily wide field? I would especially elaborate her knowledge on communicable disease and its prevention, and employ her on visits of inquiry and advice with reference to notified disease. Generally speaking, she is better at this work than the male sanitary inspector; and, moreover, the person who has to be interviewed at such visits is almost invariably another woman.

MUSEUMS OF HYGIENE.

A well-equipped museum is an essential provision for the training of the official public health worker, and yet we do not possess in this country a single museum of hygiene which is entirely worthy of the subject. Outstandingly the best is the Museum of the Royal Sanitary Institute; but that is incomplete is some respects. It is complete only in the apparatus of the sanitary engineer and inspector. But much of the subject-matter of personal, domestic, infant, and industrial hygiene lends itself to orderly and detailed presentation in a museum of hygiene; and this, more suitably developed, would be most helpful in the practical training of certain arms of the public health service. But, generally speaking, outside of London the collection of material for demonstration purposes is miserably inadequate (even at university centres) to the training needs of *any* branch of public health work. The hygiene museum, where there is one, is generally but a travesty of those provided for other subjects.

What is the reason for the wretched provision in this respect at most training centres? It is the old story of money-starvation—the denial that so impoverishes results in all branches of public health training. A well-equipped museum not only demands much thought and energy; there must also be maintained a reasonable expenditure of money. Generally speaking, our training centres of hygiene and public health appear to be regarded by Government, local sanitary authorities, and the public as institutions calling for no special recognition and support, instead of being looked upon as provisions for the practical training in a sphere of work which is a vital concern to the community.

STANDARDS OF TRAINING AND EXAMINATION.

It will be agreed that, both in respect to medical and non-medical public health officials, the lack of collaboration between the trainers and the examiners of the candidates is deplorable. Teachers will continue to rail at examiners, and examiners find fault with teachers, until they are more intimately connected up and mutually coöperate to ensure well-trained candidates, for it is essentially the standard of the examination that determines the standard of the training. The occasional discrepancy of the best student of a centre failing while the worst succeeds at an external examination, is mainly due to the circumstance that at some examination centres a candidate to whose training more months have been devoted than there are hours given to the examination may be referred after a rather haphazard examination, without any guidance from the training centre, and without any advice being given to the centre as to where the training has failed. Here, then, there is ample scope for an improvement which is vital to training; and I beg to offer the following suggestions to secure a better, fairer, and more rational scheme for examinations.

1. As to the constitution of the Examining Board, a preference should be given to specialists in their own subjects who are engaged at training centres.

2. In respect to every candidate from a recognised training centre who is about to present himself for examination, there should be forwarded from the centre a short record—more especially of his practical work, including his terminal examination marks; and an assessment mark of this record, not exceeding 33 per cent. of the total marks for a pass, should be put to the credit of such student.

3. A brief general report upon the result of the last examination should be furnished in respect to the candidates of each training centre, when circumstances warrant it or whenever an application is made.

As with the health visitors, so with the sanitary inspector, no test of qualification for their work can be regarded as satisfactory that does not embrace a practical examination in addition to the usual written and oral examinations. As in the case of candidates for Part 2 of the Examination for the D.P.H., the sanitary inspector candidate should be given some premises to inspect and report upon; indeed, such a test is even more appropriate to this examination than to that for a D.P.H.

I am satisfied that there is only one way by which the training courses and examinations to which I have referred in this lecture can all be brought to conform to a satisfactory standard, and that is for those central authorities at Whitehall who are interested in securing the most efficient service of public health officials, and who contribute toward the salaries paid to them, to lay down the scope of the training and examination that must be everywhere provided in order to secure their approval of any appointments made, and to see, by frequent inspections, that the standards they impose are maintained. They will then refuse to sanction and endow the appointment of any official who has not received a thorough practical training at an approved centre, and they would refuse to recognise such a makeshift and make-belief provision as the appointment of persons to perform important and difficult duties for which they are not suitably qualified; for at present not only may one who has received nothing but a nurses' or midwives' training sit for the examination for a health visitor's certificate without any further training, she may even be appointed to act as an official health visitor without having obtained a special certificate. Unless action is taken on the lines above suggested there seems to be little, if any, hope of future improvement.

CONCLUSION.

Mr. President, Ladies, and Gentlemen,—I have emphasised in these lectures the prime importance of the subject of the teaching and training in hygiene and public health, for the standard of such training determines the quality of the whole public health services. I have directed attention to the fact that our schemes for such teaching and training need revision, reconstruction, and standardisation. I have ventured to indicate where the training, directed to many special issues, is lacking, and to offer suggestions for improvement. As I have been confirmed in the criticisms and suggestions I have made by the opinion of a large number of prominent teachers and official workers in hygiene and public health, I venture to hope—and I do so most earnestly—that some at least of the suggestions may appeal to those who have it in their power to give practical effect to them. If this hope is realised, the Milroy Lectures for 1918 will have served a most useful purpose.

A CONTRIBUTION TO THE

TECHNIQUE OF INFECTED WOUND CLOSURE,

MORE ESPECIALLY COMPOUND FRACTURES.

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Remarks by Colonel Sir ROBERT JONES, A.M.S., C.B., F.R.C.S. Eng., Edin., & Irel.

ONE of the greatest problems which the Army medical authorities are faced with is the provision of hospital beds for the large numbers of wounded men who are being continually transferred to England. This problem naturally varies with the severity of the fighting in France; and, if the present indications are to be relied on, the pressure is likely to increase.

Captain Gurd's article is therefore extremely opportune, as it emphasises a method of rapid and successful closure of wounds which otherwise might persist as sinuses for months. Not only does this method help in the early closure of wounds, but it facilitates the subsequent operations, such as nerve suture and tendon transplantation, which are rendered more simple and effective with the diminished scar formation. As can be realised, the diminution in the number of dressings allows of better fixation, and thus leads to better and quicker healing both of soft tissues and bone.

Introductory.

During an experience of over two years as surgical specialist with a casualty clearing station in France the writer has become familiar with, and consequently an advocate of, the methods of wound treatment instituted by Carrel and Rutherford Morison. The comparative ease with which filth-impregnated and actively infected fresh wounds can be prepared at the C.C.S. for immediate primary or early secondary suture led the author, when transferred to a home hospital, into which the late results only of war wounds are admitted, to attempt modifications of wound excision and sterilisation upon wounds in which bacterial invasion had become well established.

In order that methods might be tested Colonel Sir Robert Jones placed at my disposal 30 beds and admitted cases exemplifying the various types of suppurating compound fractures which have hitherto proved difficult to control in the hospitals in this country. At his request this preliminary report upon the results obtained in this group of cases has been prepared. It is fully realised that a larger number of cases kept under observation for a longer period is necessary in order that the permanence of results may be properly estimated.

In this series of cases bacteriologic and other laboratory controls have not been possible. It is hoped that, in the near future, another series of cases will be treated and that we shall be in a position to carry out such examinations.

It is not my purpose in this note to discuss the relative value of the various operative techniques and antiseptics which have been employed in the treatment of war wounds, nor to attempt to analyse the chemical or immunologic processes involved in wound repair. It is my intention to outline a method of treatment which has, in my hands, proved of very considerable value, and to attempt to justify my opinion in this respect by an analysis of cases.

Description of Technique.

Infected compound fractures, as seen in the home hospitals, fall more or less naturally into three groups, depending upon degree and virulence of infection, resistance of individual, and length of time since injury. For indicating suitable therapeutic measures cases have been divided as follows:—

1. Acute suppurative cellulitis with slough formation.
2. Open granulating wounds communicating freely with exposed bone and discharging purulent material in moderate quantities.
3. More or less quiescent bone inflammation communicating with the surface by means of one or more sinuses.

I. Acute suppurative cellulitis.

The treatment has consisted in excision and cleansing of original wound, if not already accomplished. Adequate incision of inflamed area is made, tubes are introduced, and discontinuous instillation with Dakin's solution or eusol employed according to method introduced by Carrel.

Dressings are changed daily, or once in 48 or 72 hours, depending on amount of suppuration. In all more important wounds the first few dressings are best carried out with patient under anæsthetic, so that the tissues may be thoroughly examined and if necessary, further incisions made, pus pockets evacuated, necrotic material excised, and instillation tubes accurately placed in positions in which they will do most good. Less frequent dressings under an anæsthetic have proved more useful than dressings carried out in the ordinary way at shorter intervals.

So soon as necrotic fascia, muscle tissue, &c., have separated or have been excised and profuse suppuration more or less controlled, the treatment is changed. The surface of the wound and the surrounding skin is thoroughly cleansed with soap-and-water and bathed with spirit. The wound is then dried, an excess of bismuth iodoform paste (Morison) is placed over surface and into all pockets and bone cavities. Gauze gently wrung out of liquid paraffin, and containing in its centre a mass of B.I.P.P., is placed everywhere in contact with the tissues.

This is substantially the technique suggested by Morison with the addition of the paraffin-gauze pack. This was commenced with the view of inducing the bismuth iodoform mixture to insinuate itself into all interstices of the wound, and appears to have proved its usefulness.

Wounds so treated, even though they have been previously discharging freely, do not require dressing more often than once on 5 to 15 days. Pain in injured limb and marked constitutional evidence of infection indicate necessity of further interference. Even though there be moderate staining through the dressings, the wound need not be disturbed, as the dressings do not tend to become foul, nor do proliferating granulations tend to invade, or become adherent to, the paraffined gauze.

In several cases it has been found useful in phlegmonous wounds receiving Carrel-Dakin instillations to protect portions of wound less severely infected by means of a B.I.P.P. paraffin-gauze pack.

II. Wounds so treated have now been transferred into members of Group II. As soon as the infectious process has become localised, as evidenced by absence of surrounding zone of œdema and hyperæmia, an effort is made to approximate the tissues and skin edges, and so minimise the ultimate formation of new tissues with its accompanying sequelæ of adherent scars and nutritional disturbances.

This is done by insertion of mattress sutures of heavy silk (No. 12-16) smeared with B.I.P.P. and protected by small rubber tubes or buttons. These sutures are placed 2 to 4 cm. from edge of wound and drawn

sufficiently tightly to put continuous traction on the tissues. They should cross wound over paraffin-gauze pack. The wound is dressed with spirit or Dakin's solution.

At each dressing, at six to 12 days' intervals, new sutures are inserted and the tissues in this way gradually approximated. As the skin edges approach one another the skin is undercut in order to avoid invagination of scar.

In certain cases with marked loss of tissue complete approximation of integument will be found impossible. It is, however, surprising the breadth of wound surface which can be obliterated in this way.

At each dressing the bone ends are carefully palpated and the B.I.P.P. pack brought in accurate contact with bare bone. All loose white bone fragments are removed and bone ends which are not covered with granulations within six weeks from time of injury are nibbled away until healthy bone is encountered.

The treatment of the wound should be such that the opening in soft tissues should remain somewhat larger than affected bone area until bone ends are covered with granulations.

FIG. 1.

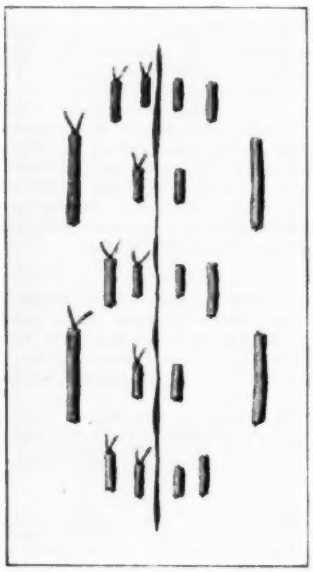

Diagram showing method of inserting protected mattress sutures in layers.

Once the bone is obscured by velvety granulations the granulation tissue and as much as is deemed advisable of the scar tissue which has formed in the soft tissues is excised and the wound tightly closed by means of superimposed layers of mattress sutures after B.I.P.P. has been carefully applied to the surface. (See Figs. 1 and 2.)

FIG. 2.

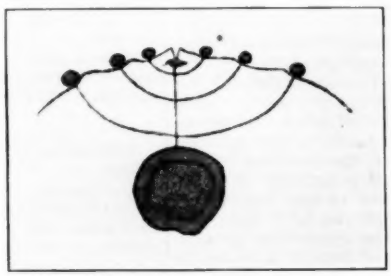

Diagram showing method of inserting protected mattress sutures in superimposed layers. Cross section.

III. In the third class of case—namely, compound fractures in which the inflammation is limited to one or more discharging sinuses—the author suggests a more aggressive method of treatment than is commonly employed. If the technique outlined above be followed sinuses will be less frequent, since the two chief causes of sinus formation, dead bone forming a nidus for bacterial proliferation and invaginated epithelium, are combated at the outset.

In the treatment of sinuses the author wishes to emphasise the value of passive hyperæmia. A comparatively large number of cases will heal promptly and permanently if meddlesome packing with inert gauze is discontinued and passive hyperæmia employed.

In that larger group of cases which do not so respond and in which operation is indicated the safety of such interference may be assumed and the resistance of the individual increased by means of the proper use of a Martin's bandage.

Commence cautiously if inflammatory process is, or has recently been, acute, with application of gentle pressure for five minutes. If no reaction follows pressure is increased and period of application lengthened until limb receives treatment for 30 minutes two or three times daily. In this way the resistance of the individual is built up and his tissues prepared for operation.

As a working rule I believe it correct to assume that any patient in whom induction of passive hyperæmia in infected limb for two periods of 30 minutes in one day is not followed by a febrile reaction of more than 99·4 is a suitable subject for surgical interference. If no reaction follows the hyperæmia operation may be undertaken at once; should the patient react to 99·4 a period of five or six days without hyperæmia should be allowed to elapse before operation is undertaken. Should the reaction be above 99·4 only minimal interference should be carried out.

Operation in this group of cases consists in excision, *en masse*, of as much scar tissue as may be possible and still permit of closure of wound edges.

A wedge of tissue is excised down to surface of bone. Hæmorrhage is arrested by packing and hot salt solution. The affected bone area is exposed and examined if possible by direct vision. Free and fixed sequestra are sought for and removed. Dead bone, not in form of sequestra, is nibbled away.

If exposure of bone has been sufficiently good to justify belief that no dead bone has been overlooked, and if the tissues can be easily approximated, the wound is treated according to Morison's technique and closed by mattress sutures in layers.

In perhaps the majority of cases either bleeding has interfered with proper vision, so that examination of bone is impossible, or the wound edges are not easily approximated. In such cases the following technique has been employed.

The exposed bone and soft tissues are mopped with alcohol and an excess of B.I.P.P. applied. Paraffin gauze packs are pressed into position and the wound closed, as completely as may be, by means of protected mattress sutures.

Such wounds are not dressed. At the end of 5 to 10 days the patient is anæsthetised, sutures and packs are removed. The wound surface is found clean, bright-red in colour, and covered with fresh firm granulations. The affected bone is now easily examined, there is no bleeding, and further interference is more readily carried out. The whole wound is again dried, "re-bipped," and closed by mattress sutures in layers.

In the present series of cases, eight were closed at the first operation, seven in two stages, and seven in three stages. One case of attempted closure in two stages proved a failure.

As Morison pointed out in his original paper, frequent dressings after closure are unnecessary and are harmful, inasmuch as the blood which exudes immediately following operation stiffens the dressing gauze and forms an excellent splint conforming accurately to the part. Sutures should be left in position if possible for three weeks, although occasionally some cut out and are better removed.

Illustrative Cases.

Five cases are reported in some detail, as they are each typical of a certain class of case and also exemplify various details of procedure. Case 1 belongs to Group I. in the above classification, and though still in the open-wound stage has progressed very favourably.

CASE 1.—Private B. McC., aged 27, wounded Oct. 30th, 1917; admitted to my care Nov. 18th, 1917. Patient looked ill and anæmic. T. 101°–103° F., P. 106–120. Injury of left leg, E. and E. wounds 4 cm. above ankle-joint, with comminuted and spiral fracture of tibia. Both wounds discharging copiously. Diffuse cellulitis of inner half of leg. Nov. 18th: Antitetanic serum, 500 units.

Nov. 19th: T. 102°, P. 112; incision into infiltrated area failed to discover pus. Original wounds enlarged and loose bone fragments removed. Walls of bone cavity B.I.P.P. and packed with paraffin gauze. Severe post-operative reaction followed by some improvement; later elevation in temperature. Wound dressed for observation 23rd, 25th, and 27th. Lower range of temperature. Antitetanic serum (500 units) on 28th.

Nov. 29th: Operation; incision 24 cm. long along inner border of tibia through soleus muscle. Large abscess cavity evacuated. Carrel tubes (four) inserted. Bone cavity repacked. Dec. 1st: Operation; dressing under anæsthetic. necrotic fascia excised, upper end of spiral fracture B.I.P.P. Carrel tubes (four).

Dec. 7th: Has been dressed alternate days since operation. Tubes removed and B.I.P.P. and paraffin gauze pack applied without anæsthetic. Dec. 10th: Dressing under anæsthetic. Wound clean but for suppurating focus at upper end of spiral; this nibbled with rongeur forceps and packed with excess of B.I.P.P. and paraffin pack. Two mattress sutures inserted to commence approximation of tissues. Bone cavity repacked. After Dec. 13th T. only slightly above normal.

Dec. 15th: Dressed, packing changed. 19th: Anæsthetic, both bone areas cleansed and repacked. Four mattress sutures inserted approximately skin edges to within 0·5 cm.

Jan. 15th, 1918: Fourth dressing since last operation. Wound closed completely except at two points of packing. Will require anæsthetic for bone excision at these two points, lesion of bone is firm in perfect position. Jan. 21st: Operation. Wounds dry and healed but for focus at site of original wound. This cavity much diminished in size. Further operation will probably not be necessary. Cavity repacked, B.I.P.P. and paraffin gauze.

CASE 2.—Private C. W., aged 21 years. Wounded Sept. 20th, 1917. Severe compound fracture left humerus, with injury to musculo-spiral nerve. Previous treatment not known. Treatment commenced Nov. 18th, 1917, at which time temperature elevated; patient anæmic and ill. Diffuse suppurative cellulitis of posterior half of upper arm. Pus discharging in large quantities from two openings on antero-external aspect of arm. On antero-internal aspect is a large granulating surface, apparently site of original wound.

Nov. 18th: Incision under local anæsthetic (patient refused general anæsthetic). 22nd: Antitetanic serum, 500 units.

Nov. 24th: Operation. Anterior incision made down to large pus collection behind humerus; free sequestrum removed. Carrel tubes

(three) inserted. Discontinuous Dakin's solution employed hourly. Dressings changed every two days.

Dec. 7th: Operation; sinuses on external aspect of arm joined by incision, 9 cm. in length. Thickened shaft of humerus exposed with numerous large white sequestra imbedded. Seven large sequestra removed by means of rongeur and lion forceps, with resulting loss of continuity of bone. Carrel tubes (three) inserted. Dakin's solution every two hours.

Dec. 9th: Wound free from pus. Tubes removed and B.I.P.P. paraffin gauze pack inserted without anæsthetic. Between Dec. 9th and Jan. 2nd dressed four times, B.I.P.P. and paraffin.

Jan. 2nd, 1918: Operation for examination of bone and suture. Good union of bone. Jan. 15th: Primary union.

CASE 3.—Private J. B., aged 35, wounded by shell fragment Oct. 11th, 1917. B.I.P.P. at clearing station. Compound fracture of humerus with commencing union. On anterior surface of arm triangular granulating funnel shaped wound 3·5 × 7 cm. leading down to bare bone. Discharge moderate to profuse. Nov. 22nd: Antitetanic serum, 500 units.

Nov. 24th: T. 98·6° F. Operation; granulating wound and epithelial edges excised, exposing humerus. Anterior half of bone is missing for a distance of 0·8 cm. Approximating anterior borders of bone are bare of granulations and white. Dead bone nibbled away *circa* 1·5 × 2 cm. B.I.P.P. and mattress sutures. T., after operation 100°, fell to 97° by 28th, rose to 99° by Dec. 2nd; then not above 98·6°

Jan. 15th 1918: Dressed nine times since Nov. 24th for observation. Wound healed per primam, broke down in centre Dec. 24th, but has again healed without further treatment.

CASE 4.—Private H. H., aged 21, wounded August 23rd, 1917. Compound fracture of left femur, no union, with two large discharging sinuses on anterior and posterior aspects of limb. T. 100°–101° F. Treatment expectant from Nov. 3rd to Dec. 1st, on which date operation. Antitetanic serum 500 units on Nov. 29th.

Dec. 1st: Both wounds opened up and in part excised, suspicious bone nibbled away. Carrel tubes (three) inserted, posterior wound packed. T. 97°–98·4° from Dec 3rd to 9th. Dec. 7th: Third dressing, no discharge, tubes removed. Dec. 8th: Hyperæmia 15 minutes, no reaction.

Dec. 10th: T. 98·6°. Operation; wounds excised, spirit, B.I.P.P., mattress sutures. T. 99·2° on 13th, 98·4° on 14th. Jan. 1st, 1918: First dressing since operation. One suture has cut out, leaving clean granulating surface 1·5 × 2·5 cm. Sutures removed, elsewhere primary union.

Jan. 10th: Small ulcer epitheliating, second dressing since Jan. 1st. Bone apparently uniting. Jan. 29th: Ulcer healing. Bone union firm.

CASE 5.—Private T. A., aged 21. Wounded July 10th, 1916, since when seven operations. Nov. 20th: Compound fracture right humerus, good union. On anterior surface of arm invaginated linear scar 10 cm. in length. Bone exposed at base of lower half of wound. Discharge copious. Surrounding skin involved in severe dermatitis, apparently due to constant irritation of discharge from base of wound. Antitetanic serum, 500 units. Dermatitis treated with picric acid; slight improvement. Hyperæmia 30 minutes daily; no reaction.

Nov. 29th: Operation; skin cleansed, soap and water, spirit and alcoholic picric. Excision *en masse*, of skin and scar tissue down to and including surface of bone. No evidence of sequestrum. Hot saline, spirit, B.I.P.P. paraffin gauze pack, mattress sutures to approximate edges. Spirit dressing.

Dec 4th: Operation; sutures and pack removed, wound clean and red. Spirit. B.I.P.P. mattress sutures in three layers. Dec. 5th: T. 99° F.; otherwise normal or subnormal.

Jan. 10th, 1917: Dressed every two to three days on account of dermatitis. Sutures removed. Dec. 17th: Primary union. Jan. 18th, 1918: Wound now soundly healed, dermatitis cured, tissues freely movable over bone.

Description of Cases and Results.

The 30 test cases treated may be divided into two groups, depending upon length of time since injury.

In Group A have been placed 17 cases of refractory long-continued suppurations, the average length of time since injury to commencement of special treatment being 227 days.

In Group B are placed 13 cases of more recent date—average length of time since injury 53 days.

On the whole, the results in those cases in which closure might fairly be hoped for have been very satisfactory, 23 out of 25 having healed during a total period of treatment of eight weeks.

The case in which failure is recorded was one in which the elasticity of the tissues was over-estimated, with consequent early cutting out of the sutures. The remaining case shows excellent progress.

The other five cases consist of four which have progressed from cases of severe suppurative cellulitis to almost complete closure (see Case 1.). One very severe case of diffuse infection of the thigh is slowly improving.

Analysis of Results.

Number of cases treated			30
Average number of days since commencement of treatment			59
Length of time under observation since closure—average			32
Cases in Group A (days since injury, average, 227)			17
(*a*) Closure attempted	13	(*b*) Deemed unsuitable for closure	2
Successful	11	(*c*) Operation unnecessary	2
Failure	1	Healed	2
Unfinished, favourable	1		
Cases in Group B (days since injury, average, 53)			13
(*a*) Closure attempted	10	(*b*) Unsuitable for closure	3
Successful closure	10		
Cases of iodoform poisoning (moderately severe)			1
Cases of bismuth stomatitis (unimportant)			1

The author believes that the surgical results of the technique described justify a more prolonged trial of the method.

An additional advantage of the method, as compared with the usual daily dressing and infrequent operation, is the diminution in the number of dressings with consequent increased comfort to the patient, better immobilisation of bone fragments, and economy in dressing materials. These undoubted advantages of the bismuth iodoform paste method of treating wounds have already been repeatedly pointed out by Rutherford Morison, but for some reason have not been generally appreciated by surgeons in this country.

During the month of October approximately the same number of cases with open wounds were in Ward C of Highfield Military Hospital as during the month of December.

During October the cases were treated, for the most part, by means of daily hypochlorous dressings; the dressing materials used consisted of 45 rolls of cotton and 600 yards of gauze. During December, although the type of wounds in the ward was much more important, the consumption of materials dropped to 16 rolls of cotton and 350 yards of gauze.

For a period of five weeks ending Jan. 10th, the number of dressings which would have been performed under the daily dressing routine would have been from 1050 to 1400. Actually 267 dressings were performed.

My experience in the use of B.I.P.P. in the older wounds, in so far as the danger of poisoning is concerned, agrees closely with that of its originator. In this series immediate iodoform poisoning—vomiting and diarrhœa—occurred in but one case and was controlled without much difficulty. About half of the patients have developed the blue line on the gums, but in only one has a stomatitis occurred. In this case the treatment was not discontinued, and the reaction subsided under careful oral hygiene.

Conclusions.

The author believes that a more aggressive and direct method of treatment of infected compound fractures than is commonly employed in the home hospitals is indicated. The techniques introduced by Rutherford Morison and Carrel, when properly employed, have each proved their usefulness in the hospitals in France. In a series of 30 characteristic cases the author has applied a modification and combination of these methods with gratifying results. The method here described has shown itself to be safe, not difficult to carry out, and has been followed by satisfactory results in a large proportion of cases.

The advantages of any method such as the one described in this paper are many, and are of importance to the patient, the Army Medical Service, the Army, and to the economic standing of the country, and gives a feeling of satisfaction to the surgeon. The advantages claimed are:—

1. Lessening of discomfort and pain to the patient, as a result of increase in interval between dressings and shortening of open wound period.

2. Improvement in functional result in consequence of (*a*) less frequent disturbance of bone fragments during the dressing stage and the earlier application of complete immobilisation in cases in which this is indicated. (*b*) A diminution in the number of adherent painful scars and nutritional disturbances. (*c*) Earlier opportunity for secondary operations, such as nerve and tendon suture and massage, &c.

3. Early transformation of patients from the "dressing" to "observation" class of men.

4. Shortening of hospital days per patient and consequent increase in the usefulness of hospital beds.

5. Economy of dressing material, both by reason of the infrequency of dressings and by shortening of the dressing period.

In conclusion, I wish to express my appreciation of the moral and material assistance which I have received from Sir Robert Jones, C.B., Director of Military Orthopædics, and Lieutenant Colonel P. Macdiarmid, officer commanding Alder Hey Military Orthopædic Hospital, during the two months in which the cases have been treated.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.—At the annual court of governors held on May 15th Lord Aberdare, who presided, referred to the lifelong devotion and service to the hospital of Mr. Arthur Lucas, who was first appointed to the committee in 1875, and had been re-elected chairman every year since 1891.

TWO FATAL CASES OF ÆSTIVO-AUTUMNAL MALARIAL FEVER OCCURRING IN ENGLAND.

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CAPTAIN, R.A.M.C. (T.F.)

THE following cases of malaria present certain features which are probably familiar to those practising in malarial districts, but which, except perhaps at hospitals connected with the larger seaports, must be very rarely encountered in England.

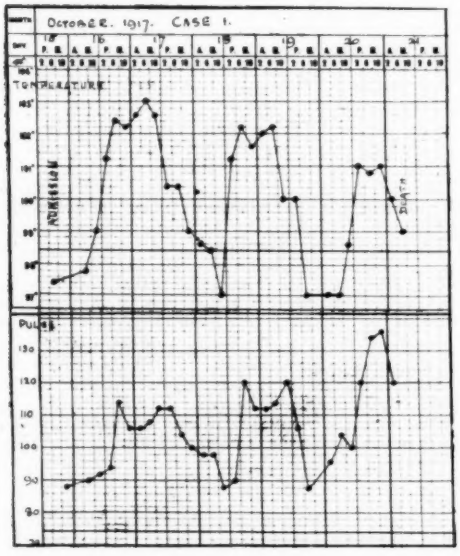
The possibility of a man being infected with the æstivo-autumnal type of malarial fever whilst on his way home across Europe but not developing the disease until some days after reaching England is obvious, but does not, in normal times, come within the experience of most of us. Considering also that this æstivo-autumnal type does not usually give a clear indication of its nature by typical "ague" attacks, it is not surprising that the disease should be at first unrecognised by those unaccustomed to any but the commoner benign forms of malaria.

As it is not unlikely that similar cases to those described below may occur from time to time during the present-day war conditions, and as early diagnosis is all-important, we are recording as fully as possible two cases which have come under our notice.

History of the Cases.

CASE 1.—H., R.N.V.R., was taken ill at his home on Oct. 10th, 1917, with headache, pains all over, and vomiting. He was seen by a medical man on the following day, when the symptoms were those associated with vague febrile attacks of indefinite nature and considered to suggest "influenza." He remained in a somewhat similar condition for the next four days, the temperature varying between 101° and 104° from Oct. 13th to 15th, and his symptoms showing corresponding alterations.

Temperature and Pulse Chart of Case 1.



At no time during this period were the symptoms characteristic of ordinary malaria—e.g., cold and hot stages, &c.—whilst the man denied ever having suffered from this complaint.

As the patient did not improve, the doctor advised his removal to hospital, where he was admitted on Oct. 15th. He was then, apparently, much better; his pains were less, his temperature had fallen to 99°, and he appeared to be recovering from a mild "pyrexia of unknown origin." He remained quite comfortable, with a subnormal temperature until the afternoon of the 16th, when he complained that he did not feel so well. The temperature rose steadily during the night, reaching 103° at 6 A.M. on the 17th. When seen on this morning he looked dull and heavy, with respirations 30 per minute, pulse 112, and a falling temperature.

The question of malaria was raised, but he assured us that he had never suffered from it in his life and had never had a day's illness whilst out of England. The spleen was not palpable, and there was no tenderness in that region. He had been a little shivery, but had exhibited nothing in the nature of "a cold and hot stage" during his attack in hospital.

There was no sore-throat, but some rather curious erythematous patches were noticed on the back. As the day went on he seemed much better, and by the next morning, except for some malaise, he was as well as on admission, the temperature being normal. When, however, on the afternoon of the 18th the temperature began to rise again for the second time since admission, the possibility of malaria became realised. An examination of the blood showed the presence of large numbers of specific parasites, and quinine was given every four hours.

So far the man had presented no alarming symptoms, but during the night he became delirious, tossed about, was sleepless, and did not take nourishment well, while his motions were green and offensive.

The remainder of the history is soon told. The temperature fell to normal again in the afternoon of the 19th and again rose on the 20th; the patient's condition became much worse, vomiting and delirium supervened, and in spite of large doses of quinine at frequent intervals he died in the early morning of the 21st.

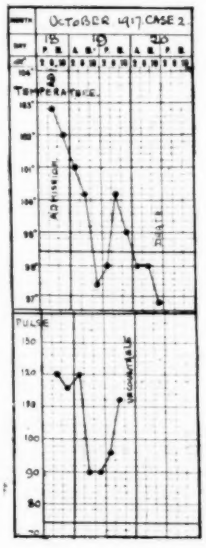
An autopsy was made the same day, details of which will be found below, whilst an account of this man's movements previous to the onset of the illness is recorded later in conjunction with those of Case 2.

We now heard from the deceased man's friends that another man who had come home with him on leave was dying, or had died, in the fever hospital, of typhoid after a very short illness. This statement was correct so far as concerned his death, which occurred there on Oct. 20th. The details of his history are as follows:—

CASE 2.—G., R.N.V.R., aged 30, was admitted to the fever hospital on Oct. 18th, 1917, certified as suffering from enteric fever.

The notes state: "The man is evidently very ill. He understands fairly well when spoken to, but his memory fails him. He cannot give much information as to his illness or his movements beyond the fact that he has been in Egypt and has recently arrived in England on 10 days' leave. He states that he has never had any illnesses except dysentery, when in Egypt, and that only lasted three days. For this he did not report sick but remained on duty. He states he was taken suddenly ill with vomiting on his way home."

Chart of Case 2.



On admission he was of a pale greyish colour, somewhat cachectic, and his face was rather puffy, body slightly œdematous. Fauces, slight injection and some dry mucus. Glands, nil. Tongue dry and furred. Teeth poor, sordes. Eyes, ears, nose, nil. Temperature 102·8°. Chest, nil. Respiration 28. Rhonchi general, a few râles at bases. Heart normal. Pulse 120, soft, dicrotic. Abdomen: Movement good, no reflex, no distension. Spleen much enlarged. Bowels opened three times before admission. Urine, trace of albumin. Skin, no rash. Nervous system, nil.

Oct. 19th: Very restless and delirious all night; given chloralamid, 30 grains. 2 P.M., shivering, no pain, abdomen nil. 5.30 P.M., unconscious and delirious, pulse very small and rapid, passed urine under him. Quinine hydrochlorate 30 gr. given subcutaneously into deltoid. 9.30 P.M.: Unconscious and pulseless, colour very bad.

Oct. 20th: 1 A.M., sinking; died at 10.40 A.M.

The following history of this man before admission to hospital has since been given us by his medical attendant:—

He was first seen on Oct. 12th. He looked very ill. Pulse, 100; temperature, 100·8°; respirations frequent. Pneumonia was suspected, but no physical signs were found in the lungs. Oct. 13th: Condition much the same, slight diarrhœa. He was quite clear mentally and seemed quite bright. He stated that he had got a chill whilst in the train on his way home from Italy and he shivered a good deal. Oct. 14th: Tongue very dry and looked like typhoid. Oct. 16th: Spleen palpable for the first time just below the rib margin. Diarrhœa still present, no distension, no spots. Oct. 17th: Very drowsy. 18th: The symptoms now suggested meningitis, he was curled up in bed and resented the clothes being turned down, pulling them back over him. The spleen had increased in size very much, more than seemed possible in three days. He was transferred the same day to hospital. There was no vomiting. He complained of feeling cold frequently, but there was no definite shivering or rigor whilst he was under observation. No record of the temperature was kept, but it was never found much above 101° when he was seen.

Shortly after the deaths of these two men a rumour reached us that a third fellow-traveller was suffering or had died from a similar complaint. Inquiries were therefore made, and happily proved this rumour to be untrue. This third man was interviewed by one of us on Oct. 24th, when he gave the following information. He himself was, and had been, quite well throughout. He and his two companions, now deceased, left Port Said in good health on Sept. 19th for ten days' home leave. They were landed at a port in Italy (date uncertain, about the end of September), where they

slept together in tents for two nights. They slept in their clothes without undressing and none of them complained of mosquito bites. The rainy season was then beginning. After getting north of the Alps—that is, about Oct. 2nd—they all three felt very cold and shivery.

Pathological Report.

Examinations of the blood of Case 1 during life revealed the presence of numerous amœbulæ within the red cells, whilst multiple infection of the erythrocytes was common. Schizogony was detected and also the presence of ovoid bodies and crescents. The parasite was classed as the *Hæmomenas præcox*.

Films made after death from the blood, the spleen, and the bone-marrow of Case 2 showed numerous amœbulæ within, and multiple infection of, the erythrocytes, together with a few crescent forms. The infecting parasite appeared to be of the same nature as in the other case.

Post-mortem examinations were carried out in both cases, when, with the exception of considerable swelling (three or four times normal size) and softening of the spleen and slight enlargement of the liver, the only naked-eye changes consisted in pigmentation of the various organs. Thus in both cases the fat was of a browner colour than normal, whilst the grey matter of the brain was of a greyer colour than usual. The liver was dark slate-brown (Case 1) or dark slate, almost black (Case 2) both on the surface and on section. The spleen was greyer (Case 1) or browner (Case 2) than usual.

The pancreas was much pigmented and the marrow in ribs and femur was of a dark brown colour. The pigmentation in the lungs could not be distinguished from early anthracosis.

Histologically the pigmentation of the organs and tissues was found to depend on the melanin present in the very numerous parasites in the blood and on that which had been taken up by the phagocytic cells, especially those lining the blood capillaries, and in the case of the liver Kupffer's cells. Very little pigment was extracellular.

The pigment in the lungs appeared to be mainly of the nature of extraneous inhaled carbon particles.

Besides the pigmentation there was a slight accumulation of small round cells in the portal areas of the liver, but no increase in the fibrous tissue. Since both these cases showed in large numbers the type of parasites (*Hæmomenas præcox*) associated with malignant malaria and the post-mortem appearances were compatible with those found in severe malarial infections the diagnosis of æstivo-autumnal malarial fever was amply verified.

Remarks.

There are two possible causes for the appearance of these cases, the fatal attacks being either primary or else recrudescences of previous infections, called into activity, as so often happens, on reaching a cold climate. Against the latter explanation we must place the positive statement of each man that he had never at any time suffered from malaria, and that, whilst serving abroad, he had never been off duty for sickness; and, moreover, it must be remembered that in each case the parasite present was of the æstivo-autumnal type, so that any previous attack could hardly have passed unnoticed.

If, however, these cases are looked upon as primary attacks consequent upon recent infection the facts are capable of a simple explanation, for these two men left Egypt in excellent health on leave for England. En route they slept two nights in tents in Italy at a place which is noted for malaria, and especially so at that time of year (end of September), whilst no statement was given of any special precautions being taken against infection. The exact date on which they left this place is uncertain, but it was probably about the last day of the month, since they were north of the Alps on Oct. 2nd, and then complained of being cold and shivery. Case 2 dated his illness from that day when he vomited as well as felt chilly. In each case the disease developed fully nine or ten days later. If we assume that infection took place in Italy whilst sleeping in the tents about the last day of September, then the symptoms which occurred in the train on Oct. 2nd were the prodomata, slight in Case 1, more severe in Case 2, whilst the appearance of the full-blown disease about seven days later falls within the usually accepted incubation period of 3 to 12 days.

In each case the disease ended fatally at the end of about ten days from its definite onset.

It is not necessary to emphasise the close resemblance which many cases of æstivo-autumnal malaria fever bear to typhoid fever. All treatises on the disease lay stress on this point. In Case 2 the continued fever, diarrhœa, enlarged spleen, and general symptoms made such a diagnosis at first quite reasonable, although in certain ways it seemed unsatisfactory, and, as is seen from the notes, was eventually doubted and cerebro-spinal fever suspected.

In Case 1 the question of typhoid fever hardly arose, but influenza or some form of mild "pyrexia of unknown origin" was thought possible, until the remittent and recurrent febrile attacks, lasting 24 hours, gave a clue to the nature of the disease two or three days before death.

The following are the points upon which we would lay stress in connexion with these two cases.

In æstivo-autumnal malarial fever the typical cold and hot stages of the simple tertian form may be absent or so slightly marked as to cause the true nature of the disease to be overlooked at its inception, when specific treatment is essential if it is to be of any use. In a malarial district this point is so well known that probably every acute febrile condition is assumed to be of malarial origin until the contrary is proved, but in this country, where, until this war, a large percentage of medical men rarely saw cases of malaria at all, and then only of the milder type, such an assumption would usually be wrong.

Now, however, with the present altered state of affairs, the possibility of the presence of malaria in any man who has been overseas must not be overlooked, and the administration of a large dose of quinine as a precautionary measure pending accurate diagnosis should not be omitted.

In conclusion we would express our thanks to the O.C. 3rd Northern General Hospital for permission to publish this account.

A METHOD FOR THE DRAINAGE OF DEEP WOUNDS OF THE THIGH.

BY W. SAMPSON HANDLEY, M.S. LOND., F.R.C.S. ENG.,
CAPTAIN, R.A.M.C. (T.);
AND
DR. P. J. HANLON,
MEDICAL OFFICER, RESERVE CORPS, UNITED STATES ARMY.
(From the 3rd London General Hospital, Wandsworth.)

IT is beyond dispute that deep wounds of the thigh are more liable to be followed by gas gangrene and other grave forms of sepsis than are similar wounds of other portions of the limbs. Small deep wounds of this region are as dangerous as, and probably more dangerous than, widely gaping ones.

The special gravity of thigh wounds probably depends mainly upon the enclosure of the soft parts in an inelastic sleeve of thick fascia lata. Inflammatory swelling confined beneath this fascia is apt to spread under high pressure widely and rapidly amid the intermuscular planes of the thigh. The fascia also prevents the development of early warning symptoms, such as superficial œdema.

The drainage of a deeply infected thigh is a problem which has not yet received the attention due to its importance. Is it or is it not possible to arrest the spread of infection in the intermuscular planes by well-devised incisions? Hitherto the only plan seems to have been the free enlargement of entry and exit, and this empirical plan may fail to attain its object.

FIG. 1. FIG. 2.

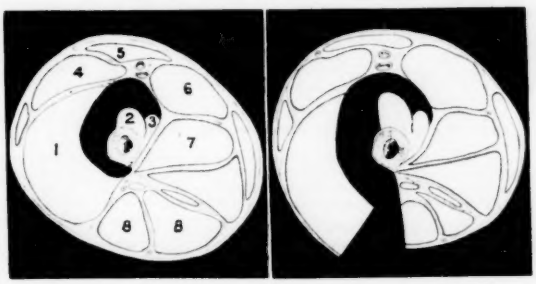


FIG. 1.—Cross-section of thigh at apex of Scarpa's triangle, modified from Heath, showing an intramuscular abscess occupying large space bounded externally by vastus externus (1), in front by rectus (4) and sartorius (5), internally by adductors (6 and 7), and behind by crureus (2) and vastus internus (3). This was the condition present in the case recorded in this paper. 8, 8 are the hamstring muscles.

FIG. 2.—The abscess drained by complete separation of vastus externus from its origin at linea aspera and prolongations of that line upwards and downwards. It will be seen that this incision goes far to provide complete intermuscular drainage for the thigh without injury to any important structure.

Method of Drainage.

A consideration of the anatomy of the thigh, and especially a study of its cross-sections, will show that the largest and most important intermuscular space, and the one most easily opened up, is the space between the vastus externus muscle and the crureus. This space runs the whole

length of the thigh and communicates with many of the other intermuscular spaces. It occurred to one of us that if this space could be thoroughly opened up the problem of drainage of the deep thigh tissues would be largely solved. Anatomical conditions favour the drainage of this space by an incision which does not divide any important structure or subsequently impair in any way the functions of the thigh.

Inspection of cross sections of the thigh shows that the posterior limit of the space in question corresponds to the external intermuscular septum and lies on the postero-external aspect of the thigh in a position ideal for drainage by gravity as the patient lies in bed. The incision is made along at least two-thirds of the length of the thigh and divides the fascia lata immediately behind the septum. The tissues are opened up in the plane between the external intermuscular septum and the hamstring muscles until the linea aspera is reached. The external intermuscular septum is now cut through along its line of attachment to the linea aspera and its prolongations above and below. Drainage tubes or Carrel's tubes are now inserted, but the wound itself gapes so considerably that it is probable in many cases they will prove unnecessary. (Figs. 1 and 2)

Incidentally the incision abolishes the constricting action exerted upon the deep tissues of the thigh by their tight sleeve of inextensile fascia.

Illustrative Case.

The following case supplies *prima facie* grounds for a further trial of the method.

Lieutenant W—— was wounded in the thigh on Dec. 2nd, 1917, was dressed within an hour at a C.C.S., and was admitted to a hospital at Rouen on Dec. 3rd.

On admission to the 3rd London General Hospital on Dec 6th a through-and-through antero-posterior bullet-wound was found in the left thigh at junction of middle and lower thirds and rather to outer side The bullet had grazed outer surface of bone, and here a small bare area of bone was felt. The wounds were small and had not been opened up. The anterior wound was discharging thin pus, while the posterior one was practically closed by plastic adhesion. An X ray examination showed a small foreign body close to the bone. Although the temperature was normal the case gave anxiety from the first, for there was a bluish tinge in the skin around the anterior wound, and though there was no crepitation, nor any superficial œdema, the thigh generally was slightly swollen.

Operation was not thought advisable immediately after the journey from France unless events should render it imperative. For some days the patient appeared to be well, but on the 9th temperature shot up to 103·8° F. and pulse to 120. On the 10th anterior wound was freely opened up and foreign body removed, and from this time temperature fell gradually to 100°. The wound was treated by Carrel's method. On the 13th fluctuation was detected on the postero-external aspect of the thigh just below the gluteal fold, and here a free opening was made. Cultures showed a streptococcus.

On the 15th the thigh was hard and swollen throughout, though superficial œdema was absent except below knee. Fluctuation was now detected in antero-internal aspect of thigh just above knee. Amputation was seriously considered, since there was evidently wide-spreading purulent infiltration of muscular interspaces. However, it was decided to make one more effort to save the limb. On the 15th through a long postero-external incision running above into the previous incision the vastus externus was separated from its origin along its whole length.

The following morning there was a remarkable improvement. The swelling had subsided, and this was accompanied by a general fall in tissue-tension, so that instead of feeling hard and brawny the tissues of the thigh were soft. The usual Carrel treatment was continued, and though on the 17th the temperature rose to 103·6° in consequence of a septic tonsilitis, the condition of the patient caused no further anxiety. The temperature finally fell to normal on the 19th, and the wound became a healthy granulating wound. By Jan. 30th, 1918, it had nearly filled up.

So far as can be judged, the cicatrisation of the wound has had no ill-effect on the functions of the thigh, but has merely reattached the vastus externus to its normal origin and reconstituted the complete fascial sleeve which normally surrounds the deep tissues.

Few cases of extensive septic infection of the intermuscular spaces of the thigh reach this country. Our experience is accordingly limited, but on anatomical grounds and on the facts of this case we suggest that in a series of grave penetrating wounds of the thigh where primary excision of the wound has failed and sepsis is threatened our colleagues on the lines of communication should adopt the plan of complete separation of the vastus externus from its origin. It will then be seen whether the method is applicable only to wounds of the region of the vastus externus, and with what degree of success, and whether it is also successful as applied to wounds of the adductor region.

It may be added that experience at home clearly indicates that no recent deep wound of the thigh, even if apparently progressing favourably, should be sent across the channel unless free drainage has been provided. Our experience includes, in addition to the foregoing case, in which a disaster was narrowly escaped, two fatal cases of delayed gas gangrene due to neglect of this rule.

SKIN-GRAFTING IN THE TREATMENT OF WAR BURNS.

BY C. P. G. WAKELEY, M.R.C.S., L.R.C.P. LOND.,
TEMP. SURGEON, R.N., H.M. HOSPITAL SHIP "GARTH CASTLE."

CONTRACTIONS with deformity are very distressing late complications of burns, and occur whenever the whole thickness of the skin is destroyed. They can only be prevented by liberal skin-grafting. It has been said that skin-grafting is no longer needed in the treatment of burns since the introduction of ambrine. I have used ambrine for over a year for burns of all degrees, and compared with control burns of similar character it has not shown any marked improvement in healing properties or final results. Skin-grafting was often the only means of obtaining a satisfactory final issue. American surgeons do not seem to have obtained any better results in the treatment of burns by paraffin preparations.[1]

Thiersch's Method.

In extensive burns of the extremities Thiersch's method should be employed.

The essentials to success are:—

1. The granulations must be healthy and clean, for it is useless to skin-graft a septic area.
2. The area to be grafted must be entirely free from excessive granulations and as dry as possible, as no dressings are used to cover skin-grafts.

Fig. 1 shows healthy granulations on dorsal aspect of hands of seaman following cordite burn received in Jutland battle. It is impossible for such an extensive area as the whole of the back of the hand to heal without contractions, no matter what treatment is employed, without recourse to skin-grafting.

When operation of skin-grafting is completed a wire cage is fitted over grafted area and patient is placed in sunshine as much as possible.

I found this method most useful in cases of burns treated at R N. Hospital, South Queensferry, after the Dogger Bank and Jutland battles.[2 3]

Heliotherapy is especially valuable after skin-grafting has been done, for the rays of the sun act as a stimulant to the tissues and encourage absorption of pathological exudates, especially scar tissue. The exposure of wounds to the sun, as Judd[4] points out, was employed in the days of Julius Cæsar's Gallic campaigns It seems to be largely employed at the present time in the treatment of war wounds, and several surgeons[5] have testified to its beneficial action in pyogenic infections.

Fig. 2 illustrates a good example after skin-grafting—the backs of both hands of a marine; this man regained perfect movement of wrist-joints, metacarpo-phalangeal and inter-phalangeal joints.

Reverdin's and Wolfe's Methods.

In some cases, particularly burns involving the face or neck, Thiersch grafts are apt to become overwhelmed by surrounding granulations.

FIG. 1.—Showing healthy granulations following a cordite burn. Photograph taken just prior to skin-grafting.

In cases of this type Reverdin's method should always be borne in mind, either as an alternative to incomplete success by Thiersch grafts, or as the primary method of skin-grafting the area affected. In a boy with a badly burnt face Reverdin's grafts gave a very satisfactory result when Thiersch grafts failed to cover completely the area involved.

In cases where the palm of the hand has been badly burnt and contractions are about to occur Wolfe's method is the most suitable; the whole thickness of the skin is used as a graft, and it is secured to raw area on palm by interrupted sutures. The graft should overlap area to be covered so as to allow for part of graft dying from lack of blood-supply.

Burns of palms of hands seem rarely met with in the senior service during action, as (1) the hands are clenched or have been gripping some object; (2) the flame is instantaneous and external; (3) palmar surfaces are thicker and more resistant to spontaneous combustion than dorsal surfaces.

Method of Flaps from Abdomen.

For all fourth-degree burns of the extensor surfaces of the hands and wrists, where much contracture has developed, or will take place eventually as a result of healing, the plastic method of a flap from the abdomen should be employed.

The technique is as follows:—

1. A tourniquet is applied below elbow, and whole of contracted surface over back of hand should be excised without opening into tendon sheaths.

2. The area should be swabbed with hot saline in order to clear away any extraneous exudates.

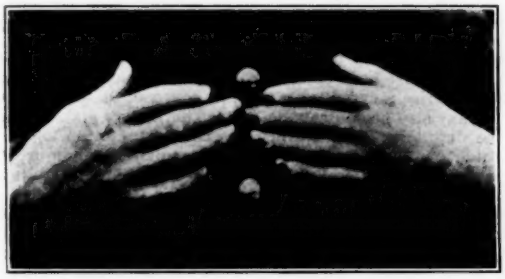


FIG. 2.—Showing the result of skin-grafting. Perfect movement of the joints was regained.

3. An incision is made immediately internal to semilunar line on right side of abdomen when right hand is to be treated, and *vice versâ* in case of left hand. The incision is carried down to anterior layer of rectus sheath and all tissues superficial to this are undercut for amount required to cover raw surface to be grafted.

4. Small openings are made in graft in mid-line for projection of fingers. The edges of the flap are secured to healthy skin margins of hand by a few interrupted silkworm-gut sutures.

5. A small drainage-tube is placed at lower corner of incision to allow any oozing to escape freely from raw surfaces.

6. The arm operated upon is fixed to patient's side by means of adhesive plaster and flannel or crêpe bandages. (This method recommends itself in preference to plaster-of-Paris bandaging because it is light, causes no inconvenience to patient, does not impede circulation, and allows of easy removal if bandage tends to become objectionable owing to sweating, &c.)

The lower portion of flap is separated from its attachment after 12 days; a further six to eight days should be allowed to elapse before upper end is detached from abdominal wall. The area laid bare by abdominal skin excision is closed by undercutting skin all round margin of wound and suturing edges together.

After the usual period of six months following the operation a limited amount of protopathic sensibility can be elicited in flap, and this improves slightly up to one year and then becomes stationary. Patients are well satisfied with the result and the æsthetic effect is good.

Beneficial Results of Skin-Grafting.

Scar tissue has occupied the attention of surgeons for some time past, and it is now recognised that a minimum amount of post-operative scar tissue is conducive to the best and most satisfactory result. In the case of burns the nature of the method of healing by granulation tends to produce by its subsequent conversion into closely packed bundles of white connective tissue fibres a maximum of scar-tissue formation. This is most undesirable for the following reasons:—

(*a*) Contraction or depression in the scar giving rise to marked deformity and impairment of usefulness of part affected.

(*b*) Keloid formation with its following disfiguring condition in exposed parts and the distressing sensitiveness of the fibroma.

(*c*) Epithelioma is an unfortunate result apt to occur in untreated scars of long duration or in areas where irritation is excessive.

It will be thus well understood that it is the duty of the surgeon to consider seriously skin-grafting as a means of preventing these sequelæ. In my opinion it offers the only method of permanent improvement and removal of these dangers, especially if treatment by X rays, injection of thiosiamine in form of fibrolysin, massage, and hot baths do not give relief and show marked improvement in absorption of scar formation.

It has been shown by Archer[6] that the operation can be performed under local anæsthesia with excellent results.

This matter has been brought prominently before our notice because of the numerous sailors and soldiers surveyed out of the services on account of surgically untreated scar formation from burns. Man-power is now an essential factor in the successful carrying on of the war, and it is most undesirable that these men, highly trained in many cases, should be lost to the country when we have the means of alleviating their condition and enabling them to resume their useful sphere in the services, or, at least, to contribute to the country's welfare in a civic capacity. I am sure from my results that the beneficial effects of skin-grafting have only to be realised by surgeons in order to make it a much more common operation, with great satisfaction to themselves and subsequent gratitude of the patients thus treated.

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Clinical Notes:
MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THREE CASES OF EPIDEMIC STUPOR.

I.—By J. ANDERSON SMITH, M.D. LOND.,

MEDICAL OFFICER, ST. MONICA'S HOSPITAL.

THE following case so strongly resembles those recently recorded by Dr. F. E. Batten and Dr. G. F. Still under the name "epidemic stupor,"[1] that it seems worth noting.

A girl, aged 14, was admitted into St. Monica's Hospital on March 9th with history of five days' "unconsciousness" coming on rather suddenly with slight previous drowsiness; no convulsions, no sickness, some headache, and general rigidity. The child could swallow, and took her food. Unless carefully watched she passed urine in the bed. A very noisy air-raid during this time did not rouse her at all. Her school mistress said she was an intelligent child; only left school last Christmas. The mother said the child was rather nervous and a good deal worried by looking after her five younger brothers and sisters. She had always been healthy except for an attack of enteric fever two years ago. Father, a soldier, recently suffered from shell shock ("went like the daughter"); quite well now.

On admission the child was stuporose, lay on her back, with eyes closed, but could answer questions and put out her tongue. Tongue very dirty, gums septic, breath offensive. The pupils were equal and acted to light; slight divergent squint, no paralysis of ocular muscles. No abnormal cardiac or thoracic signs. The child was very thin and hands bluish with feeble grasp. K.J. present; no Babinski. Sensation all over was markedly blunted, corneal and pharyngeal reflex almost absent, and pin-pricks on the skin very slightly felt. Optic discs normal; urine: no albumin or sugar. Decided cataleptic phenomena were present, her limbs remaining where they were placed for quite a long time; more marked in upper limbs.

By dint of suggestion, after a few days I could get her to sit up and, finally, to get out of bed. Her attitude then was most striking. She stood by the side of the bed in a bent attitude, standing on her toes, with knees flexed, head bent forward, and eyes closed, looking as if modelled in wax and posing for an old woman with paralysis agitans (minus the agitans). When persuaded to move her limbs to get into bed she did it at a rate strongly suggestive of the movements in a cinematograph at an unusually slow time-rate. The most difficult muscular movement for her seemed to be to open the eyes; even when she had recovered movement in the other muscles the eyelids still moved very sluggishly. There was also some nystagmus.

On March 14th she was exhibited before a local medical society; she remembered nothing about this. On the 17th she was better; only passed urine once in 24 hours. On the 20th much better; kept her eyes open and took some interest in surroundings. Slight ptosis left eyelid.

On March 27th marked choreic movements set in, generalised, but more marked on right side. Tongue escaped and all movements ceased during sleep. No cardiac affection. The choreic movements were not specially rhythmic in character and did not appear very different from ordinary chorea, although I have no doubt this was not the common rheumatic chorea. On May 1st chorea had almost disappeared; still some slight jerkiness, especially on right side. Lumbar puncture was not done.

No other members of the family were affected and none of the other children at St. Monica's have so far showed any signs of a similar condition.

II.—By F. PARKES WEBER, M.D., F.R.C.P.

In a well-developed little girl, of English parentage, aged 2½, now under my hospital care, a condition of lethargy or drowsiness, resembling that described by Dr. Batten and Dr. Still, developed suddenly on May 2nd, after a slight "cold," and immediately after the examination of her throat by a doctor for enlarged tonsils and adenoid vegetations, an examination which seems to have frightened her very much.

She was admitted to hospital on May 6th, and had a temperature of 102–103·2° F. until the evening of May 8th; no fever since. The lethargy varies considerably in degree from time to time. Sometimes it is very great and the child passes urine under her. Sometimes the sleep appears almost normal, and she can be easily roused and eats in the ordinary way, and will even talk about her toys and going home to see her father and mother again; but at her best she seems tired and sometimes yawns like a normal sleepy child. When left to herself she immediately goes to sleep again.

A feature of the case is the presence of well-marked bilateral ptosis, left facial paresis, and alternating divergent strabismus. There is apparently diplopia, for the child usually grasps at a false image of the object situated to the left of the real object when the real object is on the child's left, and to the right of the real object when it is on the child's right. There is no optic neuritis.

[1] THE LANCET, May 4th, p. 636.

The parents (who are intelligent persons) say that the child has eaten no sausage and no tinned or preserved food of any kind. The case seems to resemble those described in Paris under the heading "Lethargic Encephalitis" more than those in London described by Dr. Batten and Dr. Still under the heading "Epidemic Stupor." In regard to the recent correspondence on the subject of "botulism" it has, I think, escaped attention that on the continent, about 1906, the *Bacillus botulinus* was found to grow not only in sausages, tinned meat, &c., but likewise in tinned vegetables.

In regard to the possibility of my case and similar cases being epidemic cases of acute polio-encephalo-myelitis (the Heine-Medin disease) I should like to recall the following papers, all published some years ago, when the latter disease was rarer in England:—Sydney Stephenson: "The Oculomotor Type of Polio-encephalitis," Proceedings of the Royal Society of Medicine (Children Section), 1911, vol. iv., p. 87; Payan Dawnay: "Double Third Nerve Palsy due to Acute Poliomyelitis," ibid., 1912, vol. v., p. 13; K. K. Lundsgaard: "Acquired Ocular Palsies in Children (? Heine-Medin Disease)," *Hospitalstidende*, 1912, vol. iv., p. 854.

London, W.

III.—By T. H. PARKE, M.R.C.S., &c.

Patient, aged 23, came home for Easter on March 28th. A message came to me on Sunday night to call next day, April 1st. House isolated on moor. Sanitation good and food ample. Patient had been in bed since Thursday night. Very listless, apathetic and drowsy, subconscious, and when roused would answer questions correctly but with difficulty. Eyelids closed, unable to open them; with manual assistance vision was good. No diplopia; dull, flat facial expression. Imperfect muscular grip of hands. Knee-jerks rather active; no Kernig. No headaches, vomiting, gastric disturbances, or general pains; "feeling very tired." Temperature and pulse not much disturbed. Some inclination to constipation. No active delirium, but some confusion of ideas.

This condition continued with few slight changes for about 18 days. The symptoms did not conform with any true meningeal affection, and inquiries did not point to any hysteric or neurotic condition. My difficulties were all cleared up after reading the article by Dr. A. J. Hall, of Sheffield, and in correspondence he has kindly confirmed my diagnosis.

Later inquiries as to food, &c., are very indefinite. Sardines, a little tinned food (salmon), not much fresh meat (no cheese) had been regularly partaken of by a household of five without any ill-effects, and no other case could be traced in her working neighbourhood. She had continued her work as a clerk till the Thursday, but made stupid entries.

When recovering the patient had no recollection of the last two miles of her walk, arrival home, or of my earlier visits. The earliest remembrances are of happenings on April 20th. In the third week of illness recovery was steady, but a left-sided ptosis, with an upward and external squint, still remained. She was unable to write. On May 1st, while in the neighbourhood, Dr. S. M. Ross, assistant county medical officer of Derby, kindly saw the case with me. It was decided that any bacteriological examination at this stage would prove very inconclusive.

On May 7th steady progress was maintained; taking outdoor walks. Ptosis and squint passing away and now able to write, but with difficulty and unsteadiness.

There were no marked tremors at any period, and even in her most drowsy period would always swallow and take her food excellently.

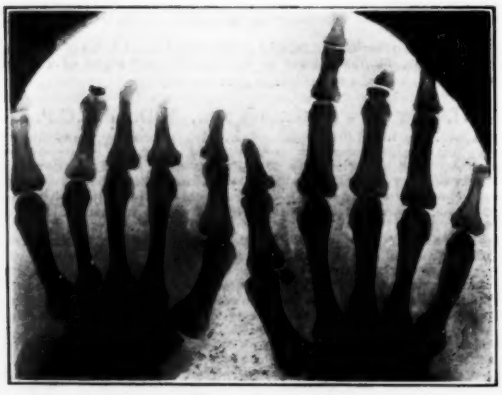
Tideswell.

A CASE OF CONGENITAL DEFORMITY OF HANDS AND FEET.

By BARBARA G. R. CRAWFORD, M.B., CH.B. GLASG.

A MAN, aged 49, seen on Nov. 8th, 1917, presented the following conditions:—

Right hand: Terminal phalanx of third finger, half of terminal phalanx of fourth, and terminal and second phalanges of fifth finger absent; thumb and second finger normal. Left hand: Second and terminal



phalanges of second, third, and fourth fingers absent; thumb and fifth finger normal. The third and fourth fingers of right hand carried vestigial nails; the ends of other deformed digits were broad and presented the appearance seen after a good amputation. An X ray photograph (unfortunately faulty) shows that in some of the incomplete digits the phalanges are entirely absent, and in others they are represented by rudimentary bones.

Right foot: Distinct talipes equinus; foot and leg considerably wasted, cold, and slightly cyanosed. Left foot: Normal except for an extra fleshy pad about size of bean at end of each of third and fourth toes.

The deformity has been present since birth, but patient has followed his occupation from age of 10, maintaining himself as successfully as his more normal comrades. He said he had never found the condition of his hands a drawback, but he could not get about very well on account of right foot, he felt the cold of winter very much in it, and had to wear a protective dressing.

The family history is as follows. He is the eldest of a family of 14; others normal, father and mother both normal. He is married, with six children, all normal. The eldest of the family, his only daughter, has a normal child 15 months old.

Such a case occurring in the East or even in Scandinavia or Iceland would immediately raise the suspicion of leprosy. Here, however, the man has never been abroad, and the deformities have been present from birth, so such a suspicion does not arise; syphilis, a potent cause of deformity at birth, may also be contraindicated. The history and nature of the deformity point to intra-uterine amputation as the probable cause, the result either of amniotic bands or of posture at a very early stage of development. Acquired characters being non-heritable, intra-uterine amputations do not lead to a deformity with a positive family history; this is as might be expected in this case. The bony nodules in two of the digits in place of the missing phalanges, seen in the X ray photograph, may represent an effort at replacement after amputation, such as occurs in many other forms of life, notably in the arthropoda.

Queen's Ferry, Chester.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

SECTION OF GYNÆCOLOGY AND OBSTETRICS.

Acute Uterine Inversion.—Myoma of the Uterus.

A MEETING of this section was held on May 2nd, Dr. G. F. BLACKER, the President, being in the chair.

Mr. OSWALD DINNICK read a short paper on an unusual case of Acute Uterine Inversion.

Dr. HERBERT R. SPENCER gave an account of two cases of Myoma of the Uterus treated by total abdominal hysterectomy, in which cancer of the body was present. The first was a case of recurrent cancer in which the growth had invaded the peritoneum. The recurrent mass was removed, together with the lower end of the ureter and the right half of the bladder. The kidney became infected subsequently and was removed. There was a second recurrence which was inoperable. Death occurred two years and two months after hysterectomy. In the second case the growth had advanced to within 1 mm. of the peritoneum. The patient was well and free from recurrence after five years. The speaker was an advocate of total abdominal hysterectomy for myoma. He had never amputated a uterus for cancer of the body, whether complicated with myoma or not. Three experienced gynæcologists, advocates for amputation for myoma, had overlooked cancer of the body as a complication, and performed amputation (or, in one case, incision before removal) in 14 out of 18 cases (77 per cent.), and in no case was a five-year after-history given. Two of these three gynæcologists had overlooked cancer of the body, *un*complicated with myoma, and performed amputation in 3 out of 12 cases (25 per cent.), two of the three cases recurring (66 per cent.). Advocates for amputation for myoma needed to take greater care than advocates of total hysterectomy in making the diagnosis of cancer of the body as a complication, and should clamp the uterus before dividing (with the cautery). Total abdominal hysterectomy by Doyen's method, the vagina being opened and severed with the galvano-cautery, was superior to amputation for myoma in lessening the risk from cancer of the body should it have been overlooked.

In the course of the discussion the PRESIDENT said that he had seen only one case of cancer of the stump after the supravaginal operation. Most operators considered that they did not get such a good result from total hysterectomy as from this operation, which was safer and simpler. The number of cases of cancer of the stump was so few that the danger to the patient from the more severe operation of total hysterectomy was greater than the possible chance of

the occurrence of cancer.—Mr. J. D. MALCOLM said that he always removed the uterus completely except in cases of simple fibroids.—Dr. H. RUSSELL ANDREWS thought that cancer of the body would not be overlooked if histories were taken very carefully. A distinct interval of amenorrhœa, eight months to a year, occurring when periods had been profuse, was very suggestive of a new condition.—Dr. R. A. GIBBONS thought it important to leave the pelvic floor.—Mr. DINNICK said that if total hysterectomy were well done convalescence was easy and smooth, more so than in the case of the supravaginal operation. There was no rise of temperature and less danger of sepsis.—Dr. LAPTHORN SMITH said that he always did total hysterectomy in suspicious cases.

Dr. SPENCER also showed a specimen of Ovarian Dermoid, followed 13½ years afterwards by an endothelioma of the vagina, which was discussed by Dr. H. WILLIAMSON, Dr. T. G. STEVENS, and the PRESIDENT.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at the Medical Institution, Liverpool, on May 10th, Professor H. Briggs, Vice-President, being in the chair.—Dr. W. K. Walls exhibited a specimen of Fibroid of the Uterus undergoing cystic degeneration.—Dr. Briggs: Large Ovarian Fibroma, 11½ lb. in weight, with no degeneration.—Mr. Blair Bell: 1. Red Degeneration in a Fibromyoma Uteri 16 years after the last pregnancy, associated with pyosalpinx. 2. Large Myoma Uteri of unusual appearance and with few symptoms in a young woman, aged 25.—Dr. H. Clifford read notes on a case of Ascites in Successive Pregnancies with Albuminuria.—Dr. Briggs: Acute Abdomen during Pregnancy due to Twisting of the Pedicle of a Small Ovarian Fibroma, with small fibroma of the abdominal wall.—Dr. R. A. Hendry: Missed Abortion carried two months over the full term.—Mr. Blair Bell: Remarks on the Technique and Value of Ovarian Grafting in the Human Subject. He insisted that grafts must be autoplastic, small in size, and from the interior—follicles, as he pointed out, being unessential, for the conservation of the uterine function. The operation was not indicated in women over 42, in women sexually inactive, or in cases where conservation was at all possible. Grafts were stored in the utero-vesical pouch until the later stages of the operation, and were then embedded either in the abdominal wound, the drainage wound, or in the fundus of the uterus, according to the variety of case operated on. After-histories, from such as had been tried in a series of 20 cases, were noted as regards: (1) absence of menopausal symptoms; (2) persistence of menstruation; and (3) general health.—The paper was discussed by Dr. A. Donald, Dr. Walls, Dr. Briggs, Dr. J. E. Gemmell, and Dr. B. Sumner.

New Inventions.

A SIMPLE WRIST-DROP SPLINT.

A LIGHT and efficient splint for maintaining hyperextension of the wrist in cases of weakness of the extensor muscles has been devised at the Surgical Supply Depôt of the Ladies' Needlework Guild, in connexion with the 1st Scottish General Hospital in Aberdeen. It consists of a single piece of coppered mild steel wire, gauge 10 or 11, and about 24 inches in length, bent to follow accurately the palmar aspect of the forearm and wrist, the ends being firmly inserted in a flat dome-shaped piece of hardwood 1½ inches in diameter which fits into the palm of the hand. The wire is bent so as to form lugs to keep in place the strap of webbing which buckles round the forearm, and the protrusions formed by the spread of the wires at the base of the palm serve a like purpose for the strap which goes round the wrist. The splint produces any required degree of hyperextension without exerting pressure on the thenar or hypothenar eminences, and leaving the fingers quite free. The cost of materials is about 4*d*. Mr. G. W. Clyne, one of the workers at the Depôt, is its inventor.

Reviews and Notices of Books.

1. *Localisation et Extraction des Projectiles.* Par L. OMBRÉDANNE, Chirurgien des Hôpitaux, Professeur Agrégé à la Faculté de Paris; et R. LEDOUX-LEBARD, Chef de Laboratoire de Radiologie des Hôpitaux de Paris. Second edition. Paris: Masson et Cie. 1918. Pp. 305. Price 4 fr.
2. Translation of Above. Edited by Lieutenant-Colonel ARCHIBALD D. REID, C.M.G., President of War Office X Ray Committee. With a Preface by Colonel W. TINDALL LISTER, C.M.G., Consulting Ophthalmic Surgeon to British Forces in France. London: University of London Press, Limited. 1918. Pp. 386. Price 10*s*. 6*d*.
3. *Précis de Radio-diagnostic.* Par le Dr. F. GANGEAS, Assistant de Radio-thérapie à l'Hôpital Saint-Antoine. Second edition. Paris: Masson et Cie. 1918. Pp. 563. Price 24 fr.
4. *Le Cœur et l'Aorte.* Par H. VAQUEZ, Professeur Agrégé à la Faculté de Médecine de Paris; et E. BORDET, Chef de Laboratoire Adjoint à la Faculté de Médecine de Paris. Second edition. Paris: Libraire J. B. Baillière et Fils. 1918. Pp. 255. Price 15 fr.
5. *Radiography and Radio-therapeutics.* By ROBERT KNOX, M.D. Edin., Consulting Radiologist, Great Northern Hospital; Honorary Radiographer, King's College Hospital, London. Part II.: Radio-therapeutics. London: A. and C. Black, Limited. 1918. Pp. 387–606. Price 15*s*. net.

THE important part played by X rays in the medical services of the Forces is reflected in the issue of a number of books bearing on the application of the rays to diagnosis and to a lesser extent to therapeutics.

1. Our French military confrères have elaborated ingenious and accurate methods in localising foreign bodies. An excellent summary of these appears in the volume by L. Ombrédanne and R. Ledoux-Lebard, which was noticed in THE LANCET of August 11th last. A second edition contains minor alterations and improvements—bringing the book fully up to date. The various methods of localisation may be divided into three classes—the haphazard, methods of precision (including the use of compasses, scales, &c.), and methods of certainty—the latter including the procedure of the authors, in which intermittent control with the screen is employed during operation. This has given results so accurate that the error is all but negligible.

2. The English translation, edited by Lieutenant-Colonel Archibald D. Reid, President of the War Office X Ray Committee, which makes this book accessible to a wider circle, contains a prefatory note on extraction of projectiles from the globe of the eye by Colonel W. Tindall Lister. Authors and translator have done a real service to the Allied cause in bringing an excellent volume within the reach of our medical officers at home and from overseas. The book, which is of convenient size, contains about 250 remarkably clear illustrations and diagrams, and should be in the hands of all who have to deal with gunshot wounds.

3. Dr. F. Gangeas's "Précis" in its second edition is a substantial volume on the technical and clinical aspects of radio-diagnosis, containing numerous points of technique for experienced radiologists, as well as the information and instruction in fundamental principles necessary for beginners, dealt with from historical, physical, technical, and clinical standpoints. The chapters on the investigation of internal, especially pulmonary, diseases are of a high order. No reference is made to war-time practice nor to the therapeutic application of the X rays.

4. The new edition of Vaquez and Bordet's valuable study in the clinical radiology of heart and aorta opens up a promising field for research. The detection of grosser lesions in the thorax by this method is easy, prompt, and decisive, and the authors have carried their investigation far beyond the limits usually observed in this country. It is evident from the book, however, that the fine distinctions made by the authors require for their elucidation an elaboration of technique not usually available. Their methods have improved and in some instances undergone simplification, and it is not too much to hope that eventually a much more general use will be made of the X rays in the diagnosis of cardiac disease.

5. The second volume of the second edition of Dr. Robert Knox's well-known work soon follows the first which we noticed in THE LANCET of Jan. 19th last. The present instalment deals with radio-therapeutics, including radium. The action of radiations on tissues is explained, and methods of application and dosage are dealt with fully. Treatment of different classes of disease, skin, glands, epitheliomata, sarcomata, and the like are given in a series of separate monographs. A chapter on the physics of radium is contributed by Mr. C. E. S. Phillips, and abundant space is given to the technique and appliances used in the administration of radium rays. The final section of the book refers to the combined use of radium and X rays, with special reference to the injuries and diseases incidental to military practice.

Fracture of the Lower Jaw. By L. IMBERT and P. REAL. Translated from the French and edited by J. F. COLYER, F.R.C.S. London: University of London Press. 1918. Pp. 189. Price 6*s.*

WE have already commented on the French version of this manual, the joint work of a general and a dental surgeon, which Mr. Colyer has now made accessible to a wider public. The practical standpoint taken up by the authors, and the fact that their methods are in general in harmony with those practised in this country, will make the book as useful to English readers as to French. The section on bone-grafting is of special interest.

Diseases of the Skin. By Sir MALCOLM MORRIS, K.C.V.O. Sixth edition. Revised by the Author, with the assistance of S. ERNEST DORE, M.D. Camb. With 10 coloured and 72 black and white plates. Sixth edition. London: Cassell and Co., Limited. 1917. Pp. 770. Price 12*s.* 6*d.* net.

THIS long-established text-book has run through no fewer than five editions and four reprints since its first appearance in 1893. As the preface points out, the volume has increased in size from 556 pages foolscap octavo to 770 pages crown octavo, and even this last would have been greatly exceeded if Sir Malcolm Morris had not adopted the plan of printing the rare diseases in much smaller print than the rest of the book. The work of such a veteran in the dermatological world is of more than usual interest. Innumerable practical points which a lifetime of study discovers are put at the disposal of the student in brief and simple language. As would be expected from a member of the Commission on Venereal Disease, the section on syphilis is very complete, and 16 pages are devoted to its treatment alone. The illustrations reach a high level of life-like representation and there is an excellent index. The precise dosage of radium and X rays is not stated in the maladies for which they are recommended; but the omission may be designed with the purpose of leaving such potent agents to the expert in their use.

Troubles Locomoteurs Consécutifs aux Plaies de Guerre. By AUG. BROCA. Paris: Masson et Cie. 1918. Pp. 155 Price 4 francs.

THE proper treatment of ankylosis and stiffness of the joints must depend upon a clear appreciation of the pathology of the lesion that is being treated. Moreover, the stiff joint cannot be treated as such until the causative condition, trauma, inflammation or sepsis, has been cured. These two preliminary considerations receive very adequate appreciation by Professor Broca, as might be expected. But they are too often forgotten by those who have these conditions to treat. The persistent attempts to mobilise a joint that is permanently fixed by intra-articular changes, or to worry a joint that is inflamed into mobility are still much too common, and for this reason alone Broca's book may be recommended to the profession. It has been said that the orthopædic surgeon should think in terms of function, so that in any consideration of the best position of fixation of a joint or of the relative importance of strength or mobility of a particular part of a limb the first condition to be borne in mind is the functional utility of the part. For this reason certain positions have been laid down as the best fixed positions of the various joints. There is room for a certain amount of difference of opinion as to the exact angle at which the several joints should be fixed, but the difference in this respect between the practice of surgeons is only in minor points. In the main all who consider the matter are agreed, and if only their teaching were universally known and remembered we should not see the unfortunate cases of fixation of the elbow in full extension and of the knee in flexion that still occur too commonly. Professor Broca's opinions are in most points in agreement with the established English customs.

For excision of joints the author has little good to say. He condemns the early wide excisions that are so commonly seen in military surgery because of the weak flail-joint that results. In this he will be supported by all English orthopædic surgeons. But perhaps in almost equally condemning late excisions he pays too little attention to the successes attained by well-designed arthroplasties, particularly for the elbow-joint.

JOURNALS.

The Indian Journal of Medical Research (Vol. V., No. 2) opens with an appreciative obituary notice of the late Director-General of the Indian Medical Service, Sir C. Pardey Lukis, K.C.S.I., by Major F. Norman White, illustrated by an excellent photograph of the deceased officer.—Captain F. W. Cragg, of the Victoria Hospital, Bombay, furnishes some observations on 613 dysentery cases from Mesopotamia, and Major J. Cunningham, in conjunction with Captain H. H. King, supplies a report on a special investigation conducted, under the auspices of the Indian Research Fund Association, on dysentery in the jails of Eastern Bengal. These investigators think that they are justified in saying that the great majority of cases of jail dysentery when admitted to hospital tend to get better of their immediate symptoms without any medical treatment. A restricted diet is sufficient to bring this about. The disappearance of actual dysenteric symptoms is hastened to a certain extent by the administration of a slight purge—e.g., a mixture containing soda and magnesium sulphate or grey powder. None of the treatments tested appear to have any influence upon the shortening of the convalescent stage of the disease; treatment by a Shiga vaccine did not seem to have any special advantage over other forms of treatment. The cases treated by emetine gave the same results as those treated by rest alone.—Major E. D. W. Greig contributes three papers, the first of which is a continuation of his bacteriological studies of cholera-like vibrios isolated from the stools of cholera cases in Calcutta, his present communication dealing with the virulence of the various strains. The second paper is a summary of the results of his observations on the treatment of oriental sore by antimonium tartaratum. The third contribution, written in collaboration with Major W. D. Ritchie, is on the subject of intravenous injections of mercuric chloride in the treatment of enlarged spleen.—A final report, with many plates, is presented by Lieutenant-Colonel Clayton Lane on the ankylostome inquiry in the Darjeeling district, Assam, and in it the statement is made that two-thirds of persons of the labouring class living at the high altitude of that district are infected by hookworms, and coprophagic infections are much more numerous. The majority of the infections are light, and those infected are to be regarded as carriers. When these persons have been freed from their infection a marked improvement in their health and energy has resulted. For treatment thymol is effective, cheap, and safe. For the prevention of ankylostomiasis the use of latrines is essential, and the only type of latrine at present known likely to fulfil this purpose is one based on the principle of the septic tank. The household septic tank latrine is now being installed in some of the tea gardens, and if successful will be generally adopted.—Dr. R. Row, of the Petit Laboratory, Bombay, describes with illustrations a new species of spirochæte isolated from a case of rat-bite fever. This patient's illness was caused by the inoculation of a specific spirochæte through the bite of a rat which probably had a generalised spirochætosis. Experimentally the organism was communicable and pathogenic to mice, the incubation period, 6 to 10 days, being the same as in man. The case was cured by an injection of neosalvarsan.—Captain T. C. Boyd describes the preparation of a bacteriological nutrient medium by means of mineral acid.—Under the title of "Studies in the Etiology, Course, and Treatment of Rabic Infections," Major A. G. McKendrick and Captain C. J. Fox, respectively director and assistant director of the Pasteur Institute of India, Kasauli, review the statistics relating to persons treated at that institution during the five years 1912 to 1916. The authors draw attention to the use of atropine, suggested by Major F. Norman White, in cases which have developed symptoms of rabies. The effect of this drug is to relieve throat spasm, and if the remedy be given at suitable intervals this distressing symptom can be entirely prevented, so that the patient is able to eat and drink, and the throat spasm held in check until the phase of recovery has set in. Each case, of course, requires careful watching by the medical attendant.

THE LANCET.

LONDON: SATURDAY, MAY 25, 1918.

The Proposed Ministry of Health.

IN view of the imminence of a Parliamentary measure bearing on the coördination of the services of Public Health it is necessary for the medical profession to consider the questions involved in all their aspects. We reported in our issue of April 20th the views expressed at a special discussion held by the Royal Society of Medicine, and we have received communications arising out of that discussion which we should have published had not the Society determined to deliberate further on matters which are seen to be of prime importance to every section of the medical profession. The adjourned debate on the Future of the Medical Profession under a Ministry of National Health, to be opened on Wednesday next, May 29th, by Sir WILLIAM OSLER, will assist to a more general comprehension of the situation. Many of our correspondents, for example, write as if the erection of a Ministry of National Health implied a State Medical Service for all whose names appear on the Register. To advocate such a revolution and to cordially approve of the principle that a single Government Department of the first rank should have charge of the maintenance of national health are not the same things, and, for the sake of clearness, we trust that those who debate the proposed Ministry of National Health will bear this in mind, and will define clearly what they intend to discuss. A great waste of time may thus be obviated.

We print this week contributions from two whole-time health officers attached to the Royal Army Medical Corps, and therefore preferring to remain anonymous. Both our correspondents are men of intimate knowledge and large administrative experience, and the warnings contained in their communications should receive due attention in future schemes for the organisation of a Ministry of Health. They speak on principles rather than on details, but even on principles they differ fundamentally, showing the inherent difficulties there are in replacing by order what has become a magnificent muddle. The Senior School Medical Officer is ready to consider a scheme grading the various medical officers in a new National Health Service, and he is asking for a service based upon the pattern of the Royal Army Medical Corps, which also commends itself to Surgeon-General G. J. H. EVATT, whose letter appeared in our correspondence columns last week. A County Medical Officer puts forward substantial arguments for believing that reforms should begin at the periphery, immediate remedies being found for the more obvious defaults, when the great coördinating scheme could follow later, and digest the material in more assimilable form. His suggestion that increased executive powers should be given to County Councils is to the point, for it is somewhat of an anomaly that the County Council is not exactly a sanitary authority, as is the council of a municipal borough or of an urban or rural sanitary district. There are signs, however, that this may be changed in the future, and that the county may, as a unit, perform more direct work in behalf of health, comparable to that which is now being done in the direction of the prevention of venereal diseases.

The British Medical Association have published in the form of a pamphlet the reasons proposed by the Association for the establishment of a Ministry of Health as one of the principal Departments of State, and add a plan for the constitution of such a Ministry. The scheme of the Association, which is thoroughly thought out both with regard to central and local organisation, shows, as would have been expected, a full appreciation of the impossible position suffered to-day by the individual member of the public and by the practitioner in regard to family treatment. Here the entanglement and overlapping are so great that we doubt whether reform by detail, as suggested by a County Medical Officer, can be calmly contemplated, inasmuch as such tolerance and patience would imply a new life for many separate examples of public activity which could well be fused into a common endeavour, with saving of time and personnel. The arrangements suggested by the Association for simplification show an intimate acquaintance with the practical troubles of the general practitioner, and should serve to bring out the one important underlying fact that if the energies of the general practitioner are hampered by unnecessary or mutually contradictory regulations it is the public which greatly suffers. The scheme of the British Medical Association postulates that the Ministry of Health, having a Minister of Cabinet rank at its head, should be supplied with an Advisory Council, and that this Council should be a statutory body including representatives of all the interests concerned, representatives of the medical profession among others. An Advisory Council, to be qualified to give advice or to be worth consulting, would have some such composition, but it must be made clear that the body has been constituted for the welfare of the public, and not to hold a watching brief for labour interests or medical interests. The functions of the Ministry would be discharged, according to the scheme of the Association, by a staff on which persons of equal rank have the care of the preventive and clinical sides of medicine, and the importance of this proviso is as evident in peripheral working as in central administration. We briefly summarise elsewhere a memorandum of the work of the Public Medical Service of Leicester, inaugurated a year and a half before the war began, which has also reached us this week. As telling the story of an organisation of undoubted efficiency and usefulness, which has been in existence throughout the war, the lessons to be learnt from Leicester are of practical value at the moment. They are evidence of how a local community can meet medical problems.

Public Health Training.

IN his Milroy lectures for 1918, of which we complete the publication in abstract this week, Professor H. R. KENWOOD deals with the wider aspects of training for the public health, and makes suggestions for a sweeping reform in our methods of teaching hygiene, not only to medical graduates and students who propose to enter the Public Health Services, but also to health visitors, sanitary inspectors, school teachers and others, who are now beginning dimly to appreciate the value of preventing disease and disability. He insists on the need of educating the community at large; and rightly, for at the root there is but one remedy for most of our social evils, including preventable ill-health. That remedy is knowledge. The tendency has been in the past to lay all the stress upon environment and not enough on the individual within this environment. If we can raise the standard of intelligence and knowledge of the man in the street he will not only look to the sanitation and hygiene of his own home, but will also see that his neighbour acts similarly. The cultivation of a health conscience among the masses is the most powerful agent for the attainment of these ends that we possess. In education we should properly start with the child, but before we can instruct the child we must obtain the teachers; and who is there to teach these teachers? Professor KENWOOD has thought out a solution of this difficult problem. He would begin by providing economical as well as efficient training for our medical officers of health. At the present time in London alone 10 schools or centres compete for the education of the 140 students who aspire yearly to diplomas in public health, and the resulting waste of public money is great. To avoid this overlapping and waste Professor KENWOOD outlines a practical scheme for a central Institute of Hygiene. When the health officers are in a position to put their knowledge into practice, he would pay them adequate salaries, and make their social status commensurate with the benefits they confer on the community.

Passing from the education of the public health officer to that of the school child, Professor KENWOOD outlines a practical scheme for training the children of elementary schools in hygienic habits. Nothing impresses the young scholar more than when one of his fellows is singled out for special duty. The appointment in each class-room week by week of a sanitary monitor to see to the opening of ventilators and the periodic flushing of the class-room with fresh air, to report on any accumulation of dust or of misuse of the sanitary conveniences, would be telling means of ensuring in these matters that practice which is so much more instructive than any precepts. The rôle of the school nurse, as well as that of the school doctor, is essentially a practical one. And on the education and position of health visitors, including school nurses, Professor KENWOOD makes observations with which we are wholly in agreement. The health visitor is in large measure a hygienic pedagogue working amongst the members of the community, old as well as young. She has no clean-cut and easily defined duties to perform. She requires a working knowledge of physiology, of personal and domestic hygiene, of the special hygiene of the infant and expectant mother, of the essential facts of communicable disease, and of elementary first-aid. She should also know some sanitary law, as well as have a real acquaintance with the domestic sciences. Further, all this knowledge will fail in its application unless she knows much of the difficulties of the poor and of the various agencies concerned with child-welfare in the vicinity. The health visitor must also be able to take notes and keep records, and, above all, she must be tactful and resourceful. Judged from the standpoint of these requirements few health visitors secure a training sufficiently attuned to the needs of their future work. The hospital-trained nurse is not necessarily well equipped for the post of health visitor, a few months' intensive study at a special educational centre not being enough to make good her deficiencies.

Professor KENWOOD sees no justification for the tendency to develop unduly, or indeed specially, the health visitor's training in nursing, while his suggestions for training in other directions make large demands on the means and staying power of the prospective health visitor. He demands a minimum training of 16 months, four months of which are to be spent in a children's hospital, while during her last half-year the trainee is to pass at least one-third of her time at a welfare centre under skilled instruction gaining practical experience. Experience already shows that an all-round education and tact are the best qualifications for ultimate success as a health visitor, and medical officers of health and public health committees may do well to reconsider the practice of appointing trained hospital nurses alone to the more responsible posts. Preventive medicine must become more and more important in the near future, and in pointing out defects in its teaching and indicating lines for improvement, Professor KENWOOD has conferred a benefit on the community at large.

POLIOMYELITIS IN JOHANNESBURG.—In view of the outbreak in Johannesburg of infantile paralysis in epidemic form, and the probability of a return of the disease in succeeding years in the same locality, the municipal council recently voted £500 for the purpose of carrying out an investigation, obtaining, if possible, the services of a bacteriologist from the Rockefeller Institute of New York. As the greater portion of the research work which has already been done on this disease has been carried out at the Rockefeller Institute, it was thought that the employment of an investigator from that institution might possibly be the means of throwing further light on this malady. The South African Institute for Medical Research is prepared to contribute towards the total expenditure, which, it is estimated, will be in the region of £1000, that may be incurred, and contributions are expected from, the Government and other municipalities in the Transvaal.

Annotations.

"Ne quid nimis."

INFANT WELFARE IN GERMANY DURING THE WAR.

THE Report on Infant Welfare in Germany during the War, issued by the Intelligence Department of the Local Government Board (H.M. Stationery Office. Price 6*d*.) reads remarkably like an account of work done in this country to preserve infant life with the only material exception that the number of births in Germany has been reduced to a greater extent—viz., 40 per cent. less in 1916 than in 1913. To give a parallel, the reduction in the birth-rate of Liverpool in 1916 from the average of the four years immediately preceding the war was 13 per cent. and in the case of Warrington the reduction was 20 per cent. The report states that, as with us, the infant death-rate rose to an abnormal height for a time after the outbreak of war, with a gradual return later to the pre-war rate, but in Germany the effect was immediate and the relation to the dry hot summer a complicating factor. Taken on the whole year the effect is not discernible, as the higher rate of 153 in the 26 largest German towns occurred in 1914, which for this purpose is practically a pre-war year, while the figure of 140 given for 1915 is almost the same as that for 1913. In this country, as our readers will recall, the 1915 rate was largely in excess of 1914, and fell sharply in 1916. The factors which conduced to this result were apparently the same as took effect in Germany. Infant welfare work in the Central Empires received a set-back at the onset of hostilities, when thought and energy alike were concentrated on grimmer business, to be succeeded by a great impetus later on, when it became evident that the campaign was to be a long one, the demand for trained workers ultimately becoming so great that the usual training course had to be abridged. Curiously enough, the towns which have shown the greatest diminution in infant mortality during the war are those of North and East Prussia—viz., Stettin, Königsberg, and Danzig—the reduction being from 193, 184, 170 respectively in 1913 to 151, 136, 126 in 1916. The rates are, of course, high, but the corresponding figures for the boroughs in the Makerfield district of Lancashire are very similar both in height and in recent improvement. Excessive infant mortality in Germany seems, contrary to expectation, to have had no relation to food conditions, for in the towns where shortage of food and difficulties of distribution have been specially marked the death-rate has tended to diminish more than in the country where "self suppliers" ease the situation. There has been the same conflict in Germany as in this country between the ideal method of increased care for the child in the home and the makeshift method necessitated, or at all events condoned, by war-time conditions of assistance—such as institutions of refuge, creches and infants' homes. The industrial employment of women in Germany is stated to be giving rise to grave anxiety among the more far-seeing. Special measures have been taken for the protection of illegitimate babies whose death-rate is double (we are familiar here with the same ratio) that of children born in wedlock, the guardianship committees, which have long existed, having now arranged with the infant welfare centres for systematic supervision in Berlin and other large centres. Separation allowances have been extended to these children, provided that the responsibility of the father for their maintenance has been legally established. One unfamiliar point arrests our attention. A system of war sponsorship arose early in the war on the initiative of a committee of the German Red Cross, the sponsor taking responsibility for the support of a particular child, and sometimes also of the child's mother. The vogue has been such that in Silesia more than 1000 children seem to have been under care in this way at the close of 1915. With this exception the schemes as a whole sound so familiar, and at the same time so well arranged, to those initiated in similar work here that the reporter in his prefatory remarks adds a significant corrective flattering to this country, for he recalls the fact that schemes must be judged by results, and that our infant death-rate is actually some 50 per cent. lower than the German.

THE INFECTIVITY OF TRENCH FEVER.

TRENCH fever has been reported only from the war zones and is known to be a louse-borne disease, perhaps carried by the excreta rather than by the bite of the parasite, although the actual virus remains undiscovered. The extent of our present knowledge of the disease is ably summarised in a paper by Major W. Byam, R.A.M.C., and his co-workers at the Hampstead Military Hospital, opening a discussion at the Society of Tropical Medicine on May 17th. To this discussion we hope to return. In the meantime a group of altruistic American soldiers in France have made it possible to advance our knowledge very materially on the subject of the infection of trench fever and its mode of conveyance. At its inaugural meeting last October the Medical Research Committee of the American Red Cross appointed a Commission with a view of confirming and extending the work of Major J. W. McNee, R.A.M.C. In the research, which was carried out at a stationary hospital of the B.E.F., six medical officers of the American Reserve Corps (Majors R. P. Strong, H. F. Swift, and E. L. Opie, and Captains W. J. MacNeal, W. Baetjer, and A. M. Pappenheimer) were associated with Lieutenant A. D. Peacock, R.A.M.C. Sixty-eight volunteers from the U.S. Army, all of them in robust health, were examined by physical, bacteriological, and serological tests before the investigation began, and means were taken to prevent them from becoming lousy by accident. In the first series of experiments 34 men were inoculated with blood or some constituent element of it from trench fever cases in a febrile stage, and of these 23 developed typical trench fever—viz., 15 out of 16 who were inoculated with whole blood, 5 out of 5 with clear unfiltered plasma, 3 out of 4 with washed corpuscles, none out of 7 with plasma, serum, or ground corpuscles filtered through Berkefeld candles. The incubation period after blood inoculation varied from 5 to 20 days, being longer with blood taken late in the disease. The first and second days of the attack were shown to be the most infectious. Inoculation was carried as far as the fourth generation of the disease. The second series of experiments dealt with the transmission of infection by the louse. Of 26 men subjected to the attentions of *P. corporis* previously fed on trench fever cases 12 contracted trench fever, the incubation period varying from 16 to 35 days. Apart from taking longer to develop, the disease produced by the louse appeared identical with that

produced by direct inoculation of blood. The work is held by its authors to demonstrate that trench fever is a specific entity and not a form of enteric fever, and has definitely added to our knowledge of the etiology of the disease. Other aspects of the infection are left over for discussion in a later report.

THE FUTURE OF SPECIAL THROAT AND EAR HOSPITALS.

THE amalgamation of the throat and ear hospitals of the metropolis, as our readers are aware, has been the aim of the King's Fund for some time past, and a sum of money was allotted to the building of a central hospital on condition that all the special hospitals of this class came in. Diversity of interests, however, prevented any feasible scheme being put forward, and at the present time only two of these institutions are partially amalgamated—viz., the Golden Square Hospital and the London Throat Hospital. It has been contended in a letter widely issued to the press by Mr. Charles J. Heath that the proposed concentration of the work of throat and ear hospitals into one building would entail unnecessary hardship on the patients who attend. But this allegation needs to be critically examined. In the first place, all the special hospitals in question charge a small fee for attendance, whereas, with few exceptions, in the special departments of the general hospitals no charge is made. It is fair to assume, therefore, that the very poor are not materially affected, as they go to the out-patient departments in their vicinity. It may be a hardship to the poor if there is no hospital of the specialty they need in their vicinity, but too much must not be made of this argument. Moreover, the question of distance is not a good plea to bring forward when it is the throat and ear hospitals of the metropolis whose fusion is in question. The Royal Ear and Golden Square Hospitals are less than half a mile apart, and within the same distance is the Metropolitan Throat, Nose, and Ear Hospital; while the Central London is about a mile and a half from the Golden Square Hospital, something over a mile from the Royal Ear, and about the same from the Metropolitan. Since the London Throat Hospital is now attached to the Golden Square Hospital, any amalgamation of these hospitals could hardly entail an extra journey of more than two miles on any individual, and it should be taken into consideration. A glance back to the time when these special hospitals were started will help to clear away possible misconceptions, while it must be remembered that the departments in our general hospitals for this specialty were for the most part not then formed. The Royal Ear Hospital is the oldest hospital existing for diseases of the ear, and originated many years before there was any suggestion of such special departments. The same applies to the Metropolitan Throat, Nose, and Ear Hospital, which, it is true, has had a hiatus in its life. The remaining special hospitals of any note—viz., Golden Square, the Central London, and the London Throat—were the outcome of the rapid development of throat surgery due to the brilliant work of Morell Mackenzie. The Golden Square Hospital was itself founded by him, while the others owe their inception to members of his staff who desired freer scope for their independent activities. These hospitals were brought into existence to fill a gap in the medical treatment of the poorer classes, but as they had no endowment it was necessary to charge the patients a small fee towards the maintenance of the hospitals, and now that many general hospitals have opened special departments or increased their existing ones the position is widely different. St. Bartholomew's Hospital, which at the time of the foundation of the special hospitals only possessed one special (aural) surgeon, now has four—two for throat and two for ear. At Guy's Hospital there are two instead of one. At St. George's, St. Mary's, and St. Thomas's hospitals there are two instead of one. At University College Hospital there are two instead of none. The other general hospitals also have well-equipped departments in this specialty. We must add that from a teaching point of view one large institution, could it have been opened, would have been remarkably useful, and it is regrettable that there is now so little prospect of amalgamation. Had the King's Fund offered an adequate sum at the commencement a general agreement might have been reached. As a feasible alternative the teaching schools might attach the special hospitals to act as their special departments now that a large part of the drudgery of routine work has been removed by the opening of the London County Council clinics.

POISONING FROM THE EXTERNAL USE OF WOOD ALCOHOL.

THE fact that wood or methyl alcohol is a dangerous poison, whether taken by the mouth or inhaled, has been recognised for the last fifteen years, thanks entirely to American observers. Wood alcohol is used as a solvent in the arts. In America it has been prepared in a refined form, and this has been employed, because of its cheapness, by unscrupulous manufacturers, in preparing various flavouring extracts, such as "Jamaica ginger," "Columbian spirits," and other inferior products with euphemistic names. It is to their use that the cases of poisoning have been principally due. In this country no such refined products have been produced, and the disagreeable odour and taste of methyl alcohol prevent it from being taken by the mouth, although its increasing use in the arts and industries as a substitute for ethyl alcohol may likely enough lead to the production of a purer spirit. Numerous cases have been reported in America of poisoning from inhalation by workmen engaged in varnishing closets, small rooms with closed doors and windows, or beer vats. The symptoms are headache, dizziness, nausea, vomiting, and dimness of vision, often increasing to total blindness; they may terminate in coma and death. A characteristic of the severe cases which are not fatal is total blindness coming on in a few hours or days, then partial recovery of vision, and finally more or less complete permanent blindness, which is due to atrophy of the optic nerves. In the *Journal of the Canadian Medical Association* for March Dr. R. E. McKechnie has reported what appears to be the first definite case of poisoning from the external application of wood alcohol. For a woman, aged 45 years, with a sloughy surface on the leg over the site of a compound fracture, he ordered an alcoholic compress. After two days' treatment she became very drowsy. After three days she complained of nausea and blindness; the face was flushed, the pupils were dilated, and the blindness was complete. Investigation showed that the alcohol used was the refined wood alcohol, Columbian spirits. In spite of discontinuance of the applications she became worse, the tem-

perature rising to 100 F., the breathing becoming hurried and the patient being stupefied. She recovered, but optic atrophy remained, and vision amounted only to distinguishing movements of the fingers. In this case the alcohol was applied to a raw surface for four days. Can this dangerous poison be absorbed through the intact skin? There is no evidence that it can, although the opportunity has been abundantly present in the extensive use of methylated spirits for making liniments and for disinfecting the hands and arms of surgeons. But, as Dr. McKechnie suggests, it is possible that investigation might trace cases of moderate impairment of vision to the continued external use of methyl alcohol. He is not "taking any chances," and has discontinued its external use since encountering this case.

MALARIA IN ENGLAND.

No cases of indigenous malaria have been reported in this country so far during the present year. So Sir Ronald Ross tells us in the memorandum which we print on another page. Three conditions are, of course, essential for the home production of malaria: (1) The return of infected soldiers from abroad; (2) the presence of anopheline mosquitoes; and (3) access of one to the other. In regard to (1) the large proportion of infected soldiers are concentrated in eight malaria hospitals on specially selected sites, although the article in another column of this issue by Major A. J. Hall, Captain E. Williams, and Captain S. Douglas on two cases which developed a fatal infection after reaching this country should put every medical officer on his guard to look for sporadic cases. In regard to (2) Sir Ronald Ross consolingly says that anophelines are comparatively so scarce in most parts of Britain as to render the danger minimal. But the danger is there and is only to be avoided by close attention to the third link in the vicious circle. In regard, therefore, to (3) strict instructions have been issued that in places where mosquitoes abound all cases of malaria are to be collected in sheds protected against the entry of the insects. On the care with which Sir Ronald Ross's memorandum is read and laid to heart by all those who have to do with febrile disorders in returned soldiers depends the immunity of our civilian population from an infection which is easily acquired and with difficulty got rid of.

TOBACCO AND TUBERCULOSIS.

IN the *American Review of Tuberculosis* for March Dr. W S. Duboff, of Colorado, tilts at the view that smoking is harmful in pulmonary tuberculosis, especially when complicated by laryngeal disease. His conclusions are based on the observation of 1000 patients at the sanatorium of the Jewish Consumptive's Relief Society, whom he classifies as non-smokers, excessive, moderate, or light smokers. The fact that in the course of pulmonary tuberculosis women are as subject to laryngitis as men is, in his opinion, practically equivalent to an acquittal of tobacco; and his tabulated analysis showing that in most cases of throat disease associated with pulmonary tuberculosis the patients were non-smokers leads him to the sweeping generalisation that "tobacco obviously does not predispose to laryngeal complications." In the same journal Major Gerald B. Webb, M.O.R.C., deals with 3288 soldiers, whose lungs were auscultated with special reference to the detection of "smoker's rhonchi." These bronchial rhonchi were audible in most of the men who smoked cigarettes, whereas the majority of the non-smokers, pipe-smokers, and cigar-smokers did not exhibit this sign. Of the men examined 20 per cent. were non-smokers, and of 233 men discharged for tuberculosis from a command numbering about 25,000, 22 per cent. were non-smokers. From evidence of this type the author suggests that even inhaling cigarette smoke does not aid the outbreak of pulmonary tuberculosis. He quotes in support the case of R. L. Stevenson, whom he describes as an inveterate cigarette-smoker, but who lived to die of apoplexy, an *ex uno disce omnes* line of argument which medical men do not often misuse so entirely. A third opinion is given by Dr. Julius Dworetzky, of Otisville, N.Y., who considers tobacco as well as alcohol to be a direct irritant to the throat. Neither of the two first authors attempts to meet the objection to tobacco that its use promotes spread of infection. Their arguments that tobacco is innocuous to the smoker himself, as far as tuberculosis is concerned, are mainly based on rather slender statistical evidence. But their papers are useful as a stimulus to further research and as a check on the anti-tobacco fanatic, who would at all costs rob the consumptive of the inestimable solace that smoking often brings.

Dr. F. W. Edridge-Green has been appointed Senior Ophthalmic Surgeon to the Central London Medical Boards (National Service).

Sir Arbuthnot Lane, Sir James Mackenzie, and Colonel Herbert Bruce, C.A.M.C., have started for America as delegates to the American Medical Conference.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of the Governors and General Council of this Fund was held at St. James's Palace on May 14th, the Speaker of the House of Commons being in the chair. The accounts and balance-sheet for 1917, which were presented by Lord Revelstoke, having been adopted, Mr. F. M. Fry brought forward the draft report of the Council, which showed that the total receipts for the year were £238,572, of which £1518 were contributions to capital and £237,054 receipts on general account. The League of Mercy contributed £15,000.

The grants made for the year amounted to £190,000, being £20,000 more than in 1916 and £32,500 in excess of the grants made in 1912 and 1913, the years of the highest distribution before the war. Of the amount distributed, £181,000 was given to London hospitals—£140,025 in aid of general maintenance, £12,150 to the reduction of debts on maintenance account, and £28,825 towards improvement schemes or in reduction of liabilities on such schemes undertaken before the war. Mr. Fry said that the Fund had continued to encourage hospitals to postpone all schemes of capital expenditure not exceptionally urgent or not already in hand at the outbreak of war, and the total grants in aid of new schemes were only £8675. Grants for maintenance, largely due to the munificence of Lord Astor, were £8750 more than in 1916 and £34,650 more than in 1915. Of £9000 distributed by the Convalescent Homes Committee, £7050 was allocated to consumption sanatoria, and £1950 to convalescent homes. The grants to sanatoria enabled 62 beds to be reserved for the use of patients in London hospitals. The total sum distributed during the last ten years was £1,614,000. Since the foundation of the Fund 21 years ago £2,458,416 had been distributed. During the year the amount spent on administration was £3460 10*s.*, or £1 9*s.* 0½*d.* per £100 of the total amount received, as compared with £3161 2*s.* 3*d.*, or 19*s.* 4½*d.* per £100 in the previous year. The increased expenditure had been occasioned mainly by additions to the remuneration of the staff.

The Speaker, in moving the adoption of the report, which was unanimously carried, stated that for the first time the Governors had this year secured the services of some lady visitors.

THE PROPOSED MINISTRY OF HEALTH.

WE print below contributions from two whole-time health officers attached to the Royal Army Medical Corps, and therefore preferring to remain anonymous. We comment in a leading article on these two interesting communications.

I.—THE PERSONNEL OF A PREVENTIVE PUBLIC MEDICAL SERVICE.

By a Senior School Medical Officer.

The importance of the matter of the provision of a State Medical Service is such that no apology is required for adding to the numerous articles on the subject. Absence from England and contact with officers of all branches of the Service, as well as the R.A.M.C., enables a more detached view of the matter to be taken than otherwise possible. The Army is above all things practical. As a matter of practical politics it is obvious that a Bill providing a Ministry of Health can only be passed this year if it is to be regarded as the nucleus of a larger scheme. If this consummation be desirable we must throw overboard such issues as the abolition of workhouses and the provision of free medical attendance for all, issues for which many think the times are not yet ripe.

But can the matter be adequately discussed at the present moment when so many of those interested, both voters and medical men, are away on foreign service? Granted that these are the younger part of the nation, they probably constitute the majority, and more important than this, they are the part of the nation that will be affected by the proposals. It is not a question of ignorant youth and learned age; many men of mature years who represent the considered thought and well-weighed reason of the community are, fortunately for us all, abroad, and by the very reason that they are the primary agents in our winning the war are *ipso facto* debarred from taking part in the civilian fray. A large proportion of the medical officers of health proper have, it is true, been considered indispensable, but numerous other medical officers are doing sanitary work, some risking their lives from wounds, others from diseases, either those of tropical or temperate climates, and are without opportunity of voicing their views.

Yet it is generally known that the clinical members of the present somewhat chaotic Public Health Service—as we may term the school medical officers as well as the tuberculosis medical officers and those attached to venereal and child welfare clinics—would welcome the establishment of a well-thought-out and fairly devised Service, one which a medical man might join with confidence, with the prospect of a career in which success or failure would depend upon his own efforts and in which he would not be the mere plaything of chance. Experience shows that medical men do excellent work in a Service in which their grievances, fancied or real, are listened to, and, if real, are more or less speedily remedied. The average assistant school medical officer has joined the Public Health Service in the hope of becoming a medical officer of health; the posts of medical officer of health are scanty; what hope has the average assistant school medical officer of getting an adequate reward for the trouble he has taken to qualify himself for a new and original branch of medical work? The average M.O.H. appears to work upon more or less stereotyped lines. The A.S M.O. is inventing all the time, and is apt to pay dearly for being a pioneer. Lack of consideration from his medical colleagues tends to exert a deadening effect upon his work. The lot of the whole-time school medical officer with special ability is even worse. Except in a few of the leading cities, such as London, Manchester, Birmingham, or Sheffield, his emolument is contemptible, and even in these the comparison of his reward with that of the M.O.H. is *une chose pour rire*. The Society of Medical Officers of Health does little for the clinical side of the service—their communications are not well received, and their representation on the Council of the Society is inadequate. Their interests were not included in the Bill promoted by the Society to safeguard the status of the Health Services and to provide their personnel with security of tenure and a retiring pension. The underpaid assistant school medical officer was not mentioned.

One is struck by the lack of imagination shown by the Local Government Board. It was left to the Board of Education to visualise comprehensive and logical schemes for putting child and adolescent in the way of profiting directly by the improvements in medical science, both preventive and clinical. Neither the L.G.B. nor the Insurance Commission can point to achievements comparable with the creation of nursery schools, the schools for mothers, and the school clinic with its medical, surgical, and dental sides: they have, in the main, merely utilised existing accommodation and have created very little. The claim has recently been made that the medical officer of health has generally held appointments in clinical hospitals. This may be true of the tuberculosis officer, and especially of the assistant school medical officer, but in the majority of cases the M.O.H., after a longer or shorter period of service as resident at a fever hospital, is elected at once by a lay body as their medical officer. His medical qualifications may be inferior to those of his "sub-officers." It is not a happy commentary on his work that under the man-power scheme sanitation in the camp and field is in some instances being carried out, and carried out well, by laymen.

The scheme of the British Medical Association for a Ministry of Health is fairer in this respect. The Association advocates the provision of a clinical and preventive staff under a chief administrative medical officer, who should not necessarily be the M.O.H., but might be appointed from any branch of the proposed State Medical Service. The M.O.H. is charged with his proper work—viz., vital statistics and preventive medicine generally, including measures to avoid the spread of infectious diseases and investigation into the causes of preventable disease. These functions should provide adequate work for him, and it is obvious that his time would be more wisely employed by specialising in these directions instead of attempting to carry out administrative work with regard to school children and infant welfare. Of this work he has in general no recent first-hand knowledge, and depending, as he must, upon the judgment of others, is liable to discard propositions which he fails to appreciate at their proper value. It is hardly right to expect him to understand educational, ophthalmic, aural, and other such matters in a way to advise local authorities upon them. It is not unfair to conclude that both the School Medical and Tuberculosis Services have suffered because the present M.O.H. has been more interested in his own proper sphere of action, and has not had the knowledge, time, and energy to give to what he considers less important work.

In a scheme which he has outlined in an article on a coördinated medical service, published in the *Medical World*, Dr. Rome Hall suggests the reorganisation of the present School Medical, Tuberculosis, and Public Health Services into a preventive service branch of a State Medical Service. Beyond being graded and brought into full coöperation only one great reform would, he says, be needed—namely, that the public health officers of all classes should be State servants. This would effectually prevent the penalisation of medical officers on the part of local committees for simply carrying out their duty to the ratepayers. The following table epitomises his suggestions in regard to grading of the various officers:—

SECTIONS.

Military rank.	Medical Director-General.		
	Home (domiciliary) service.	Preventive service branches.	Hospital service.
		Public health. Tuberculosis. School. Infectious. Mental.	
General officers.	3 Chief M.O.'s.	Each 1 Chief M.O.	1 Chief M.O.
Colonel.	Departmental M.O.'s over divisions and preventive service districts.		Consulting surgeon or physician
Lieut.-Colonel.	Divisional M.O.'s	Principal M.O.'s	Hospital professors.
Major.	Senior district M.O.'s	Senior M.O., branch name.	Hospital registrars.
Captain.	District physician.	M.O., branch name.	Hospital surgeon or physician.
1st Lieutenant.	District hospital M.O.		
2nd Lieutenant.	House surgeon or house physician, specialised or general.		

II.—THE FUTURE ORGANISATION OF PUBLIC HEALTH WORK IN RURAL AREAS.

By a County Medical Officer.

It is fashionable in the world of public health, as in most other spheres of official activity, to pooh-pooh part-time work, but any proposed reconstruction of medical work in rural areas should be to a large extent organised on a part-time basis, such work being controlled by large-minded whole-time officials.

There is little or no practical experience to go upon. So far as one knows, no properly organised and controlled scheme of part-time medical or public health work has yet been tried, whereas whole-time officialised schemes of county school medical administration are numerous throughout the country and have not proved altogether satisfying to the communities ultimately concerned. The needs and requirements of rural areas, which after all constitute a large part of the population, are too often overlooked owing to the more insistent demands of, and the precedents created by, industrial and urban administration. Local conditions and local requirements differ from village to village, and we have lacked the clear thinking required to deal with them. The real solution of reconstructing local administrative machinery is surely not the generally accepted solution of parcelling-out England and Wales as well as individual counties into suitable and convenient areas for whole-time officers to work in on uniform lines as approved by Whitehall, but rather a happy combination of part-time medical service under local sanitary committees, with official administrative control by whole-time county council officials. The sanitary committees should naturally be the existing committees of urban and rural district councils endowed with considerable executive functions. Certainly increased executive powers should also be given to county councils, and further public health activities imposed upon them, but their watchword in administrative organisation should be decentralisation. The science of administrative medicine is a wide and rapidly developing subject, which does not lend itself to officialism, although the present tendency is to concentrate not only the financial details (which may be a proper thing to do) but also the details of executive routine in county health offices and in London.

If a scheme such as this were adopted there is no crying need for a Central Ministry of Health for the next half-dozen years. The majority of proposed schemes seem to begin at the wrong end and run the risk of providing a huge red-tape machine much worse than the existing state of affairs.

An immediate remedy for present-day difficulties of central administration might be found in appointing one and the same Minister for the Local Government Board and for the National Insurance Commission, with two separate offices and two independent staffs. This is the case with the public health and insurance departments of certain county areas—one chairman with two offices and two staffs; and so far from producing friction the result has been most helpful and intimate coöperation on both sides. The public health functions of the Board of Education, the Board of Control, the Home Office, the General Register Office, the Central Midwives Board, the Ministry of Pensions, the Ministry of Munitions, the Board of Agriculture, and the Board of Trade might be left for the time untouched. These manifold public health functions can gradually be absorbed into a Central Ministry of Health when in course of time it is constituted, whereas the Local Government Board has enough to do at the present time to reorganise itself and to amalgamate its separate branches into one solid whole without attempting to take on other duties. The local administration of the National Insurance Act would serve well enough for immediate purposes, were the County Insurance Committees to be made by legislation committees of the County Council.

III.—A PUBLIC MEDICAL SERVICE IN BEING.

A Public Medical Service was inaugurated in Leicester on New Year's Day, 1913, and in a memorandum addressed to the Prime Minister and others the honorary secretary of the Service, Dr. W. Moffat Holmes, suggests that the Leicester arrangements are in some respects in advance of those made on behalf of insured persons under the National Health Insurance Acts, and have been found in practice to work well on voluntary lines. If a Ministry of Health is set up in the near future, conferring additional responsibilities in health matters upon local authorities, he claims for his Service the consideration due to an organisation with a successful record of work accomplished. Briefly summarised, the working of the Service is as follows:—

When the Leicester Provident Dispensary came to an end on the introduction of the Insurance Act, a large section of the population of Leicester (chiefly women and children) were left unprovided for, and in these circumstances a Public Medical Service was started through which dependents of insured persons and others are enabled to obtain medical attendance by means of small periodical payments. Adults pay 2*d.* per week, children under 14 pay 1*d.* per week, not more than four children in one family being charged for. This payment entitles to ordinary medical attendance, medicine, and dressings. These low rates were fixed in order to continue the work of the dispensary, and because the members receive no aid from the State. The Service is under the control of a Board of Management, elected annually. All the doctors practising in the town are associated with the Service, in either an honorary or acting capacity. There are consulting-rooms at the central dispensary, and at five of the eight branch dispensaries. All prescriptions are made up by qualified dispensers, drugs and chemicals being supplied from the central dispensary, to which is attached a steam laboratory. Members have choice of doctor from a panel of more than 60, and are allowed to change quarterly. Attendance is at the doctor's surgery, and in several cases at the consulting rooms of the Service in addition. Special treatment for eye, nose, ear and throat, as well as dental treatment is arranged for at moderate fees. All the friendly societies in the town arrange on contract lines for the treatment of their uninsured members through the Service. A Complaints Committee was set up at the inception of the Service, but has never had occasion to meet. The Service treats the dependents of soldiers and sailors on special terms, and there is a philanthropic section dealing with the blind, cripples, and feeble-minded girls. By arrangement with the Education Committee, the Service provides accommodation for children to be treated for the eye, nose, ear and throat, and teeth, and dispensing the necessary medicines. Full advantage is not at present being taken of the facilities provided. The number of uninsured members (April, 1918) exceeds 42,000; the school clinic, new cases, numbered 2242 in 1917. The Service has carried through a scheme for attendance on the patients of the absentee doctors. Adjacent to the central dispensary is the Faire Hospital of three wards, each containing nine beds, where medical and surgical cases are received at fixed charges for nursing and maintenance, the fee for operation or attendance being mutually arranged between doctor and patient.

The board of management of the Service is specially desirous that in any arrangements made by the State or by local authorities for providing medical benefit for school children and dependents of insured persons use will be made of the facilities offered by the existing public medical service.

PRECAUTIONS AGAINST MALARIA IN ENGLAND:

MEMORANDUM BY SIR RONALD ROSS.

WE have received from the Director-General, A.M.S., the following important memorandum of precautions directed against the spread of malaria in this country, drawn up by Colonel Sir Ronald Ross, A.M.S., and dated May 16th.

Memorandum.

1. It has always been likely since the beginning of the war that malaria might spread in Britain owing to the return of infected soldiers from abroad.

2. Towards the end of 1916 this apprehension took shape in the form of various letters to the War Office pointing out the danger, and partly in consequence of this danger (which had always been apparent to Sir Alfred Keogh) a scheme was commenced early in 1917 to concentrate soldiers infected with malaria at eight different special malaria hospitals in the United Kingdom—that is, one hospital for each command. Medical officers experienced in the treatment of malaria were appointed to each special malaria hospital, and three consultants in malaria were selected to supervise their work and, if possible, to obtain scientific results from the observations made. This scheme was timed to begin from Feb. 15th, 1917, and was in full working order within two or three months afterwards.

3. As had been anticipated, indigenous cases of malaria began to appear in England during the summer of last year. The first series consisted of five or six cases of benign tertian in the Aldershot district among the troops. Then some civil and military cases of malaria were reported from Southwold, Grantham, and Walton on-Thames, and about the same time a considerable number of cases from the Isle of Sheppey and Sandwich in Kent. In the latter districts, however, we heard from local medical officers that the disease has quite possibly been endemic for a long time past to a small extent.

4. Directly these facts became known we communicated with the Local Government Board, which, in its turn, put the matter before its civilian health officers, issued

instructions, and worked in conjunction with the military authorities. The Army Sanitary Committee, together with officials of the Local Government Board and myself, visited Southwold, Isle of Sheppey, and Sandwich, and the Local Government Board and the military authorities of the Aldershot Command and myself studied the situation in that Command.

5. Meantime general instructions for the treatment of malaria cases, both in hospital and outside, had been issued broadcast by the War Office. According to these instructions all cases of malaria were given 60 grains of quinine weekly, and were provided with additional bottles of quinine tablets to keep in their possession, in order partly to prevent relapses of fever among the men, and partly to prevent the spread of the disease from malaria carriers to healthy persons. Simultaneously, all cases of malaria in places where mosquitoes abounded were collected in sheds protected against the entry of the insects—that is, when they were not sent to the special malaria hospitals. The cases in the malaria hospitals were similarly protected where necessary. In addition, much work was done in the way of clearing and oiling pools and watercourses. For military reasons it was not found possible altogether to keep old cases of malaria out of all districts where anophelines abound, but we considered that protection from mosquito bites, together with persistent dosing with quinine, would suffice to check the spread of malaria from the military cases in such localities. It will, of course, be understood that anophelines occur in small numbers during the summer all through the United Kingdom, and that malaria cases returning from abroad must, for military reasons, be stationed with their units wherever those units happen to be. But, in my opinion, the anophelines are comparatively so scarce in most parts of Britain as to render the danger of spread of malaria a negligible quantity except only at a few spots where the insects are more numerous. Nevertheless, we have taken, and are taking, special precautions in places where no indigenous cases have occurred within our cognisance, as in the New Romney district, Southampton, Oxford, Epsom, and in parts of Kent.

6. In order to provide against the occurrence of endemic malaria during the present year a meeting was held in London on Jan. 18th, while I was absent in Salonika, between Colonel Horrocks, Lieutenant-Colonel Webb, Major Smales, and officers of the Local Government Board, to consider all the steps that should be taken for this purpose. The meeting drew up a comprehensive list of measures, very largely in accordance with those adopted during 1917. On my return I saw and fully approved of this memorandum.

7. In order to give effect to it, several officers had been specially detailed for the work—namely, Captains Macdonald, O'Conner, and Parsons, R.A.M.C., and Lieutenant Edwardes. These officers have been engaged in moving about among the most dangerous areas in order to supervise the measures which are being taken to inspect local conditions, and to instruct local authorities, both civil and military, on the questions at issue. For its part the Local Government Board has at its disposal the advice of Colonel James, I.M.S. (retired), a very experienced malaria officer, and has also asked its sanitary department to notify cases as soon as they occur. I may add that the Local Government Board is now issuing a memorandum on the indigenous malaria of last year; that I have personally inspected most of the dangerous localities, and that surveys by experienced entomologists have been made in them.

8. A general system has been adopted by us for the immediate notification of all cases of malaria entering the United Kingdom from abroad for the purpose of recording where such cases disembark and where they go to when on leave or are stationed when on duty or in hospital. Civil medical officers of health are informed when all such cases enter their districts, and the subsequent career of these cases is watched and a regular monthly report sent in by medical officers of all units and hospitals in the United Kingdom. These reports are now collected and tabulated and studied in my office here.

9. Up to the present no cases of indigenous malaria have been reported during the present year.

10. With our present organisation former foci of malaria in England are under minute supervision, and if new foci develop, which I hope will not be the case, we can at once send experts there to deal with the matter forthwith. The Local Government Board has made similar arrangements. Personally, however, I am by no means sure that last year was not a very exceptionally favourable year for malaria owing to the fact that warm spring and early summer caused exceptional breeding of mosquitoes, and I hope that the present year will be less favourable.

RONALD ROSS,
Colonel, Consultant in Malaria.

All medical men should be on the look-out for cases of malaria among men returning from districts where infection could have occurred, so that the machinery for dealing with the cases can be put into action promptly.

Correspondence.

"Audi alteram partem."

THE PRIMARY EXAMINATION OF THE F.R.C.S. ENG.

To the Editor of THE LANCET.

SIR,—May I ask the privilege of space for the insertion of the accompanying short reply to the letter from Sir William Osler appearing in your issue of last week, and at the same time express my thanks for your courtesy.

I am, Sir, yours faithfully,
G. H. MAKINS.

DEAR SIR WILLIAM OSLER,—A personal appeal from you demands a personal reply, and although I obviously cannot take upon myself to answer on behalf of the Royal College of Surgeons itself, I can say that experience of the results of the Primary Examination for the Fellowship of the College has been for some time a source of grave concern to the Council and the Board of Examiners alike. The matter is, indeed, under consideration at the present time, and your authoritative opinion cannot fail to be of real value and great influence.

One point in your letter, the "Fellowship Class," one of the unhappy products of an overcrowded curriculum, especially appeals to me as a lifelong student in a London school. No element, in my opinion, has done so much to reduce the candidate for the Fellowship of the College from a well-informed surgeon to the level of a "carefully prepared" individual, and any change which could result in the substitution of personal observation and research for careful class preparation would indeed be a step in a happy direction.

Yours sincerely,
May 20th, 1918. G. H. MAKINS.

To the Editor of THE LANCET.

SIR,—I am sure the unsuccessful candidates at the last Primary Examination for the F.R.C.S. Eng. will feel grateful to Sir William Osler for his kind solicitude on their behalf. His description of the "rottenness of the present system"—for "system" it must be, he says—suggests the analogy of a cookery class and what may be the results if some of the more distinguished and capable teachers of such classes become examiners and judges of dishes prepared and sent to table by the pupils. Sir William Osler's account of the failures hardly makes sufficient, if any, distinction between the candidates who come straight from the schools and those who left the classes long ago and have since been trying concoctions on their own individual responsibility and initiative.

As Sir William Osler's letter is addressed to the President of the Royal College of Surgeons I will not presume to give details of the comparison I make. I may, however, perhaps be permitted to add that some candidates, even though they have been excellently well prepared, fail to pass owing to temporary aberration or unthought-out replies. For example, if a candidate made mistakes in his paper on anatomy or physiology equivalent to an error in the Rule of Three that 82 is the fourth term in the percentage proportion of 27 out of 34, it goes without saying that even a fair-minded, capable examiner could not possibly give a pass mark to such a candidate.

In conclusion, may I say that my only reason for writing this letter is the conversation which I had with you, Mr. Editor, on this very subject one day last week.

I am, Sir, yours faithfully,
Cavendish-square, W., May 21st, 1918. HENRY MORRIS.

To the Editor of THE LANCET.

SIR,—As an F.R.C.S. Eng. who, as the result of experience gained in teaching and in examining, has advocated somewhat drastic reforms in medical education for many years past, I welcome most heartily the letter of Sir William Osler, in which attention is drawn to an evil which we have tolerated far too long—namely, the systematic rejection on examination of well-educated and well-trained students. Sir William Osler thinks that the system of examination is at fault. Has he nothing to say about the system of education, of which the examiners are the outcome? Reorganise

education and technical training, and you must of necessity reorganise the system of examination, for examination can test nothing but the standard of knowledge acquired by the candidate and the degree of skill attained by him.

I am delighted that the question has been raised by so great an authority. No matter of greater importance can come within the purview of those interested in the impending general reconstruction than medical education, and I sincerely hope that, especially under the present Minister of Reconstruction, it will take a prominent position in his programme. Any mere change the College might make in its present system of examining students endeavouring to qualify for the Fellowship would not, I submit, meet the difficulties known to exist. Urgent reforms in the education of the student must first be taken in hand. The student's mental equipment, technical training, and skill cannot, under present conditions, provide what the examiner is looking for, or is supposed to be eliciting, and examiner and examinee alike are disappointed.

The essentials for reform and for the removal of injustice as regards the real student are, I believe (1) the standardisation of the amount of knowledge and of the degree of skill a student should possess, and (2) the assurance that an examiner confines himself to discovering whether a student attains such recognised standard in knowledge and in technical skill.

Until some such agreement is reached what other result than that recorded—namely, 27 out of 34 candidates rejected at our last examination, can be expected!

I am, Sir, yours faithfully,

JOSEPH GRIFFITHS,
Colonel.

Cambridge, May 21st 1918.

THE DIFFERENTIATION OF DYSENTERY BACILLI.

To the Editor of THE LANCET.

SIR,—In THE LANCET of April 20th Major F. W. Andrewes reports on the differentiation of 100 or more strains of dysentery bacilli derived from laboratories in France and home dysentery hospitals, concluding that "a large proportion of the forms which have masqueraded as atypical dysentery bacilli can readily be distinguished by appropriate tests." There appear to be two questions at issue: (1) Are the Shiga and Flexner-Y types of dysentery bacilli well-defined entities with fermentative and serological characters sufficiently constant to enable them to be identified with a great degree of regularity by competent bacteriologists? and (2) are these classical types of organisms to be regarded as the sole cause of dysentery of bacillary type?

As regards the first point, Major Andrewes's general conclusion in the affirmative will be concurred in by practically everyone. With reference to the second question, as to whether other organisms not conforming to either of these types may be regarded as causal agents in dysentery, I wish to summarise the conclusions[1] arrived at by Dr. T. J. Mackie as the result of two years' work in Egypt.

Dealing with the freshly evacuated fæces from cases of (non-amœbic) dysentery within the first few days of illness, he found that in a large proportion of instances none of the classical dysentery organisms were found, but that there occurred, often in almost pure culture, a variety of organisms each with biological characters which were stable when once acquired—viz., they were Gram-negative, non-motile bacilli, did not liquefy gelatin, and always fermented glucose without gas-production; but different strains varied as regards fermentation of lactose, dulcite, saccharose, mannite, and maltose (although gas was never formed from any sugar), and in the formation of indol, and they were not agglutinated by a Y, a Flexner, or Shiga serum (only a small proportion of organisms which were at first inagglutinable ever became agglutinable by these sera after repeated subculture). All the various types were proved to be extremely virulent by intravenous or intraperitoneal injection of rabbits, producing a characteristic hæmorrhagic enteritis, most marked in or limited to the small intestine. To take one examp'e, a strain, differing from B. Shiga in the production of indol, was distinctly more virulent than a recently isolated true B. Shiga when tested in this way. It is to be noted that after the first few days of the illness all such organisms tended to be replaced in the fæces by a variety of other organisms—e.g., B. Morgan No. 1 and allied types, *B. fæcalis alkaligenes*, and *B. paracoli* types, &c.; hence, the examination of late cases or convalescents alone would have given no idea of the bacterial flora of the intestine at the commencement of the illness. Although these atypical organisms were on the whole associated with the milder cases, just as B. Shiga occurred in the most severe, this was by no means an invariable rule, and severe types of dysentery were not infrequently met with, apparently due to these atypical varieties. In the case of infections with B. Shiga and Flexner the agglutination reaction of the patient's serum was found to be so variable and unreliable and so frequently absent, except in such low titres (1 : 50 or less) as to introduce the fallacy of a normal serum effect, that no investigation of this reaction was carried out in the case of the atypical infections.

The conclusion is reached, therefore, by Dr. Mackie, that from their occurrence in large numbers in early cases of acute dysentery, in the absence of the classical types, and from their characteristic effects in animal experiments (which were found to be similar to those produced with the classical Shiga and Flexner-Y types), together with their close biological similarity to organisms of the typical dysentery group, these atypical organisms are to be regarded as true dysentery bacilli (in the etiological sense of the term).

As we have recently stated, the question remains to be settled whether all or any of those organisms represent specific types which are highly pathogenic and are transmitted from person to person, causing disease in a considerable proportion of those whose intestines they reach, or whether, on the other hand, they are organisms normally present in the intestines of the individual, which in ordinary circumstances are held in check by the common flora, but under conditions not yet understood are capable of replacing the usual coli-types and of initiating lesions.[2] The multiplicity of these organisms, however, suggests strongly that they do not have the epidemiological significance of the classical Shiga and Flexner-Y types. Hence the prevention of the considerable proportion of cases of dysentery in the east due to those atypical bacilli may present special and peculiar problems.

I am, Sir, yours faithfully,

C. H. BROWNING.

The Middlesex Hospital, May 14th, 1918.

[1] Owing to Dr. Mackie's absence from the country he entrusted me with his manuscript, which will be published in the forthcoming number of the Journal of Pathology and Bacteriology.

"TUBERCULOSIS IN DUBLIN."

To the Editor of THE LANCET.

SIR,—May I claim your indulgence to reply to Sir John Moore's letter of April 27th commenting on a paragraph which appeared in a recent issue of your valuable journal regarding the new arrangements made for the treatment of insured persons in the city of Dublin under the National Health Insurance Acts?

Sir John Moore sets out by stating: "With some amusement and more indignation I have read the paragraph with the above heading in the letter from Ireland published in THE LANCET of April 20th (p. 582)." Whilst Sir John Moore rejoices that the reading of the paragraph referred to, which, be it noted, deals with the treatment of unfortunate sufferers from the "white plague," afforded him "some amusement," it appears to me the only justification he had for writing his letter, apart from his evident desire to ventilate his opinion on the wisdom of the Dublin Insurance Committee making new arrangements, is that "obstacles" were placed in the way of a hospital patient of his (an insured person) obtaining sanatorium benefit. This allegation is not well founded, as I will proceed to show.

Sir John Moore is a member of the staff of the Meath Hospital, also known as the County Dublin Infirmary and Central Tuberculosis Dispensary, and which is part of the machinery for treatment under the tuberculosis scheme for the county of Dublin. He is also a medical certifier in respect of all diseases, including tuberculosis, for purposes of the Insurance Act under special arrangements made between the hospitals and the Commissioners. His professional, if not his personal, interest should therefore have made him familiar with the recognised procedure for obtaining sanatorium benefit for any suitable case he might come across. He must surely know that even if the agreement with the corporation—the termination of which he deplores—were still in operation an insured person could not obtain

[2] Browning, Mackie, and Thornton, in "Applied Bacteriology, London, 1918, p. 47.

sanatorium benefit without making application to the Insurance Committee and being recommended by that body therefor. Again, there is a specific instruction in each person's insurance book that when sanatorium benefit is required application should be made to the Insurance Committee of the area in which the applicant resides.

Had this simple procedure been adopted in the case to which Sir John Moore refers there would have been no difficulty or delay in receiving appropriate treatment. One can only conclude from his statements that the "obstacles" which he alleges "are thrown in the way of an insured tuberculous patient receiving sanatorium benefit at the earliest moment," were of his own creation in the example which he gives in his letters. Sir John Moore admits he knew the patient was an insured person. He communicated with the medical officer of the tuberculosis dispensary, who reminded him of that fact and who offered to communicate with the medical adviser of the Committee. Sir John Moore did not, however, approach either the Insurance Committee or even, so far as I am aware, the Insurance Commissioners, who were the responsible authorities, but he called at the offices of the Local Government Board, which is not concerned with insured persons seeking admission to a sanatorium. If his main object was to secure treatment for his patient, it is somewhat remarkable that even up to this date no notification of his patient's case has been sent to the Insurance Committee.

Sir John Moore, therefore, feels justified in expressing strong condemnation of the new arrangements which the Dublin Insurance Committee have made for the treatment of insured persons necessitated by the termination of the agreement between the Committee and the corporation. He states: "Quite recently it seems that a difference sprang up between the Insurance Committee of the county borough of Dublin and the corporation of Dublin." The "difference" to which he alludes was not recent; it dates back to the beginning of the agreement, he could have ascertained it at the Local Government Board; but, if he is still ignorant, I desire to say the cause of the agreement being terminated was that the Insurance Committee, as the result of their experience, had good reason to be dissatisfied with some of the arrangements for treatment under the agreement. With reference to this particular point, I understand Sir John is a member of the Tuberculosis Committee of the Discharged and Disabled Soldiers and Sailors Aid Association, and no doubt he is aware of the opinion of that body as to the unsatisfactory arrangements hitherto made for the institutional treatment of our Irish discharged tuberculous soldiers. I have good reason for believing that the new arrangements meet with the approval of that committee, and will remove many of the difficulties which they have experienced in the past. In conclusion, may I hope the knowledge of that fact will tend somewhat to allay the "indignation" which he expresses in the opening paragraph of his letter?

I am, Sir, yours faithfully,

CALEB J. POWELL, D.P.H., F.R.C.S.I.,
Chairman, Insurance Committee for Borough of Dublin.

Dublin, May 7th, 1918.

TARTAR EMETIC IN TREATMENT OF MALARIA.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Nov. 17th, 1917, Major A. W. Falconer and Captain A. G. Anderson detail the treatment of eight cases of malaria by intravenous injection of tartar emetic with disappointing result. Three reasons appear to me to be responsible for this disappointment:—

1. The amount of tartar emetic injected was too small in *every* case to have more than a very slight and very temporary effect on the parasites: 4 c.cm. was the largest and last injection given in each case. Now, my *first* injection is 4 c.cm., and, as a routine, I administer four injections of 28 c.cm. in all. I regard the first injection simply as a means of preparing the way for the larger injections.

2. The injections were not given sufficiently frequently nor regularly. I administer injections at regular intervals of 48 hours each, whilst in some of the authors' cases the intervals were up to 4, 6, and even 13 days.

3. The third reason is one on which I do not place very much importance. The tartar emetic solution used contained ½ per cent. carbolic acid. I do not adopt this practice as I do not consider it necessary. I have given tartar emetic in 102 cases without having any trouble as regards the sterility of my solution.

If, however, the details of the cases described by Major Falconer and Captain Anderson are closely scrutinised it will be noticed that even the very small and irregularly given injections had the *immediate* effect of causing a disappearance of parasites from the peripheral blood.

I am, Sir, yours faithfully,

JOHN P. HUBAN,
Captain, R.A.M.C. (S.R.).

Bolarum, Deccan, India, Jan. 14th, 1918.

ELECTION OF LONDON PANEL COMMITTEE.

To the Editor of THE LANCET.

SIR,—I hope you will allow me the necessary space to bring to the notice of the practitioners on the panel in London the question of the election of a new Panel Committee. "The Insurance Commissioners feel little doubt that, in view of the difficulty of holding elections under existing conditions, an extension of the term of office of all Panel Committees for a further year will meet the wishes of Insurance practitioners generally, and they accordingly propose to adopt this course." Before, however, doing so they are prepared to give consideration to any expressions of opinion on the part of the Panel Committee or its constituents in favour of holding an election.

My object in writing this letter is to bring to the notice of panel practitioners in London that if they desire that an election of a new Panel Committee should be held this year they have the opportunity of communicating that desire to the Insurance Commissioners direct *before June 15th*.

The Panel Committee have already expressed its opinion that no election should be held. In the absence of an expression of opinion on the part of panel practitioners contrary to this view the Commissioners will exercise their right under the regulations to extend the term of office of the present Committee for a further period.

I am, Sir, yours faithfully,

B. A. RICHMOND,
Secretary, Panel Committee for the County of London.

Staple House, 51, Chancery-lane, London, W.C.2, May 17th, 1918.

THE NATIONALISATION OF MEDICINE.

To the Editor of THE LANCET.

SIR,—Dr. D. Fenton's letter in your issue of to-day (p. 716) raises a few of the points of difficulty in applying a "State Medical Service" without involving the grossest injustice to existing private practitioners of medicine unless the question of compensation be considered. Many, however, will be inclined to take much wider ground, and to ask why a gigantic experiment of this sort in bureaucratic State Socialism should be tried at all upon the *corpus vile* of the medical profession, and incidentally upon the public also. There are thousands of medical practitioners, for example, who have not accepted service under the medical benefit sections of the National Insurance Acts. They feared that their professional brethren who did so were in effect, though perhaps unconsciously, taking the first steps in selling the liberty of the profession. Their fears seem likely to be fully realised if any such scheme as Surgeon-Major J. F. Gordon Dill's should come into operation. The earlier interference with the liberty of the profession and the public (borrowed directly from Germany) not having proved quite satisfactory, apparently the remedy is to be a "stronger dose of the same medicine" in the shape of a State Medical Service.

In view of the war the public have willingly and patiently submitted to severe encroachments on their personal freedom during the last four years, but they will not consent to have everything permanently "Prussianised" for the future. Surely, no scheme of this sort should be considered till the war is over and the thousands of private practitioners who have left their practices for military service have returned to them, and they and their patients have had a reasonable opportunity of formulating and expressing their views.

I do not propose to take up your space by detailed criticism, but I should like to ask one general question. Why should the medical profession *alone* be "nationalised"? Medical attendance is said to be necessary, but so are food and clothing. Are the whole public to be compulsorily insured in the matter of food and clothing and compelled whether they like it or not to go to the "local beef officer" or "local bread officer" or "local clothes officer" allotted to them by a paternal Government, instead of to the

butcher, baker, or tailor of their own choice, who may, or may not, live in their own immediate neighbourhood, and whom they can change when they please if they fail to get satisfaction from him? The private practitioner of medicine will not readily allow his profession to be "Prussianised" at the *ipse dixit* of Army medical officers and salaried medical State officials. The first fight after this war will be the fight for the restoration of civil liberty. Turning for the moment, Sir, from the subject of a "National Medical Service" to medical service under the new "Military Service Act," I should like to draw attention to the last paragraph in the short article on "The Calling-up of Medical Men" on p. 718 of your issue of to-day, in which it is stated "that a medical man who can be spared from his present occupation may now be employed in other civilian work, instead of becoming a medical officer with the Forces." Surely, the *Military* Service Act confers no power upon the authorities to *compel* a medical man to give up his practice in his own neighbourhood and go and do *civilian* work elsewhere? This matter especially concerns the older medical men now liable for military service. In your own account of the debate in your issue of April 20th Sir Auckland Geddes is reported as saying (p. 588): "It is no good talking about putting an old man who does not know the district and does not know the people into that position. What would happen then would be that you would get an unsatisfactory medical attendance and the collapse of the doctor, and you would have to move someone else in. It has been tried, and we know." To *offer* such work to a medical man if he cares to undertake it in lieu of military medical service is one thing, but to *compel* him to do it is another matter, and is, in effect, to apply to our profession that "industrial conscription" which Mr. Lloyd George has definitely assured the working classes of this country that he will not employ.

I am, Sir, yours faithfully,

Hampstead, N.W., May 18th, 1918. HENRY SHARMAN, M.D.

THE AGE-INCIDENCE OF HEINE-MEDIN DISEASE.

To the Editor of THE LANCET.

SIR,—The comparative tables given by the Local Government Board of the age-incidence displayed by (1) a certain number of cases of poliomyelitis, and (2) a certain number of cases reported as "botulism," require some comment. Diagnosis depends largely on the diagnostician's conception of the disease diagnosed. Hence, those who think of Heine-Medin disease in terms of acute anterior poliomyelitis find that their figures show an enormously preponderating incidence on children. "Botulism," as lately thought of, I take to represent the bulbo-pontine type of Heine-Medin disease, a type on whose importance special stress has lately been laid by Koplik (New York, 1916). My own cases—or rather a series of 63 cases with nervous symptoms lately observed by me in London—show an incidence of 35 on children under 10 and of 28 on persons over 10; while Wickman in 1905 reported 576 in children under 9, as against 449 in persons over 9 years of age. My point is that unless we adopt some clinical definition of the present epidemic we will be in peril of falling into confusion.

I suggest the Heine-Medin clinical standard. We have, then, to deal with a general infective disease, in the course of which *paralysis* is an accidental and incidental occurrence (Draper). We have to deal, moreover, with a population of which the age- and sex-distribution is abnormally arranged and the commensal life disturbed. Great hesitation is therefore necessary before laying stress on figures relating, not to a whole epidemic, but to that portion of one which has attracted possibly undue attention.

I am, Sir, yours faithfully,

Harley-street, W., May 21st, 1918. F. G. CROOKSHANK.

INCREASE OF STUDENTS AT BELFAST UNIVERSITY.—The number of students attending Queen's University, Belfast, keeps very large, especially on the medical side, where for the past winter the numbers during the session were more in the first year than the total number of students in the whole of the arts faculty. Forty-six candidates (a number never reached before) have entered for the Final M.B. Examinations to be held next month; and for the matriculation examination, to be held next week, 312 have entered, of whom about two-thirds are for the faculty of medicine. The numbers are so large that special halls have had to be taken in the city to accommodate them.

The War.

THE CASUALTY LIST.

THE following medical officers appear among the casualties announced since our last issue:—

Killed.

Capt. C. A. Stewart, Australian A.M.C., qualified at Edinburgh in 1879, and was in practice at Wycheproof, Victoria, prior to joining the Expeditionary Force.

Previously reported Missing, now reported Killed.

Capt. P. B. Sewell, Australian A.M.C.

Died of Wounds.

Capt. R. MacGrath, R.A.M.C., qualified in Ireland in 1914, and thereupon joined up.

Died.

Capt. W. McQuiban, R.A.M.C., qualified at Aberdeen in 1901. He held an appointment at the London Hospital, and was in practice at Stoke Newington prior to joining up.

Lieut.-Col. A. G. Sargent, I.M.S., qualified in 1896. Joining the I.M.S. in 1898, he saw service in the China Expedition of 1900 and was made lieutenant-colonel in 1917. He died of angina pectoris.

Wounded.

Capt. M. P. Power, R.A.M.C., attached Devon Regt.
Capt. R. I. Forsyth, Australian A.M.C.
Capt. J. Gray, Australian A.M.C.
Major K. N. Steele, Australian A.M.C.
Capt. A. Whyte, New Zealand M.C.
Major E. J. Bradley, R.A.M.C.
Capt. J. Colgan, R.A.M.C.
Major E. E. Hegra, M.C., R.A.M.C.
Lieut. A. C. Reid, R.A.M.C.
Capt. C. Cairnie, R.A.M.C., attached R.E.
Capt. E. Forbes, M.C., R.A.M.C., attd. Yorks Light Infantry.
Lieut. J. A. Stewart, R.A.M.C., attd. Royal Munster Fusiliers.
Capt. H. F. Brice-Smith, R.A.M.C., attd. Yorks Light Inf.
Capt. L. V. Gatt, R.A.M.C., attd. Northumberland Fusiliers.
Capt. E. G. Thomson, Australian A.M.C.
Capt. R. P. Wheeler, Australian A.M.C.
Capt. E. D. F. Hayes, R.A.M.C. attached Northampton Regt.
Capt. E. C. W. Starling, M.C., R.A.M.C., attd. Yorks Lt. Inf.

Prisoners in German Hands.

Capt. E. Underhill, R.A.M.C.
Lieut. J. A. Loughbridge, R.A.M.C.
Capt. E. E. Mather, R.A.M.C.
Capt. C. A. Meaden, R.A.M.C.
Capt. J. R. H. Ross, M.C., R.A.M.C., attd. Royal Scots Regt.

Missing.

Capt. A. B. Cluckie, R.A.M.C., attached Lancashire Fusiliers.

Previously reported Missing, now reported Prisoners in German Hands.

Capt. W. Arnott, R.A.M.C.
Major J. Kennedy, R.A.M.C.
Capt. W. H. R. McCarter, R.A.M.C., attd. Leicester Regt.
Capt. D. F. Torrens, R.A.M.C.
Capt. C. Mearns, R.A.M.C., attached Sherwood Foresters.
Capt. S. A. Forbes, R.A.M.C., attached Rifle Brigade.
Capt. C. C. G. Gibson, R.A.M.C.
Capt. H. C. Martin, R.A.M.C.

THE HONOURS LIST.

The following special promotions of medical officers are announced in connexion with the operations on the Belgian coast on April 23rd, 1918:—

To be Fleet-Surgeon, R.N.—Staff-Surg. J. McCutcheon.
To be Staff-Surgeon, R.N.—Surg. H. St. C. Colson.

The following officer is noted for early promotion:
Temp. Surg. F. P. Pocock, M.C., R.N.

MENTIONED IN DESPATCHES.

The name of the following medical officer is mentioned in a despatch in connexion with the operations of the Naval Armoured Car Squadron during the Russian retreat from Galicia in July and August, 1917:—

Surg. Maitland Bodley Scott, R.N.

And the following are brought to notice for services rendered during the operations against the Mahsuds, March–August, 1917:—

Col. P. Hehir, C.B., C.M.G., I.M.S; Lt.-Col. L. Addams-Williams, R.A.M.C.; Lt.-Col. P. H. Faulkner, R.A.M.C.; Lt.-Col. G. G. Giffard, C.S.I., I.M.S; Lt.-Col. C. H. S. Meyer, I.M.S.; Maj. C. C. Murison, I.M.S.; Lt.-Col. F. R. Ozzard, I.M.S.; Capt. J. A. Sinton, V.C., I.M.S.; Lt.-Col. J. B. Smith, I.M.S.; Major G. E. Stewart, I.M.S.; Capt. J. M. Weddell, R.A.M.C.

OBITUARY OF THE WAR.

JOHN CLIFFORD METCALFE, M.B., CH.B. LEEDS,

MILITARY CROSS.

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain J. C. Metcalfe, who died of wounds in France on March 20th, was elder son of the late John R. Metcalfe, of Liversedge, Yorks. He graduated M.B., Ch.B. at Leeds University in 1912 with first-class honours, and was house surgeon at the General Infirmary, Leeds, when war broke out, and he obtained a commission in the R.A.M.C. Attached at first to a West Riding Field Ambulance he was sent to the Western Front in April, 1915, with the 49th Division, remaining with them until the time of his death. In May of last year he was awarded the Military Cross for conspicuous gallantry in the field.

DAVID CLEMENT CROLE, M.B., C.M. EDIN.,

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain D. C. Crole, who was killed in action in France on March 23rd, was younger son of the late Dr. Angus Fletcher Crole, of Leven, Fife. He had a distinguished athletic career at Edinburgh University, winning his blue for golf and captaining the team, graduating M.B., C.M. in 1905, before he was 21. He was then for a time resident house surgeon to Professor Chiene at Edinburgh Infirmary, and bacteriologist at the Banchory Sanatorium. In 1908 he was offered a locum tenency in Cachar, India, on the termination of which he became medical officer for the tea gardens in the Moran district, Assam. He returned home in March, 1916, to join the R.A.M.C., and was sent to France in November of that year. At the time of his death he was attached to the Hussars. While in Assam, Captain Crole made a special study of tropical diseases, and it was his intention to return there after the war. In 1914 he married, in Calcutta, Constance Maud, youngest daughter of the late Rev. E. W. Ashfield, Rector of Fen Ditton, Cambridge.

HUGH SALISBURY PALMER, M.B., CH.B. EDIN.

CAPTAIN, ROYAL ARMY MEDICAL CORPS.

Captain H. S. Palmer, who died of wounds received in France on April 25th, in his thirtieth year, was son of the late C. A. Palmer, of Norwich, and husband of Jean G. Palmer, of Dumfries. Educated at Gresham's, Holt, and at Edinburgh University, he graduated M.B., Ch.B. in 1914, and obtained a commission in the R.A.M.C. in November of the same year, being attached first to a Home Counties Field Ambulance. In January of last year he went to France as regimental medical officer to the London Rifle Brigade. Recently he had been attached again to a field ambulance, and it was as he was attending to wounded in an aid-post that a shell explosion occurred and he received injuries from which he died the same afternoon. One of his senior officers writes of him as a gallant officer in the field and an accomplished doctor.

HEDLEY NORMAN DALE-RICHARDS, B.SC., L.M.S.S.A.,

SURGEON, ROYAL NAVY.

Surgeon H. N. Dale-Richards, who was killed in action in the Mediterranean on April 25th at the age of 33, was elder son of William Richards, of Beckenham, Kent. He was educated at the Mercers' School, Holborn, and the Goldsmiths' College, New Cross, where he gained the King's Prize for memory drawing, then entering the Birkbeck College and taking the B.Sc. degree in 1912. In the following year he demonstrated biology at Middlesex Hospital, later becoming joint lecturer in biology and senior demonstrator in physiology. At this time he coöperated with Dr. J. Strickland Goodall in a paper dealing with the instrumental variations in the human electrocardiogram. At the same time he was working for his medical diploma at St. Mary's Hospital, London, and on taking it in July of last year he at once entered the Naval Medical Service. Surgeon Dale-Richards married in 1916 Louisa Berridge, youngest daughter of the late Thomas Berridge, who survives him.

CASUALTIES AMONG THE SONS OF MEDICAL MEN.

The following additional casualties among the sons of medical men are reported:—

Corporal R. Harrhy (late Captain, Bechuanaland Fusiliers), died of wounds, son of the late Dr. W. R. Harrhy, J.P., of Barkley West, South Africa.

Lieut. G. P. N. Thompson, Royal Dublin Fusiliers, killed in action, only son of Dr. C. J. Thompson, of Newport, Isle of Wight.

Lieut. W. B. St. Leger, M.C., Coldstream Guards, killed in action, son of Major R. A. St. Leger, S.A.M.C., of George, South Africa.

Major T. H. Weir, R.E., killed in action, second surviving son of Dr. J. J. Weir, of Jarrow-on-Tyne.

Lieut. G. C. Davis, Northumberland Fusiliers, died of wounds, youngest son of the late Dr. R. Davis, of Orpington, Kent.

Lieut. J. B. Grange, West Yorks Regiment, killed in action, youngest son of Dr. W. D'O. Grange, of Harrogate, Yorkshire.

Lieut.-Col. A. G. Sargent, I.M.S., died of angina pectoris, eldest surviving son of the late Lieut.-Col. J. F. Sargent, I.M.S.

E. H. Dodgson, died of wounds, younger son of the late Dr. H. Dodgson, of Cockermouth, Cumberland.

Capt. H. T. Clare, (acting Major) R.F.A., killed in action, youngest son of Dr. H. L. Clare, of Trinidad.

Capt. A. W. Wilkinson, West Yorkshire Regiment, died from wounds, second surviving son of Dr. A. Wilkinson, of Tynemouth.

THE CALLING-UP OF MEDICAL MEN.

As we foreshadowed last week, the Director-General of National Service has now issued directions in regard to the calling-up of medical practitioners of military age. These will be found at length on p. 33 of our advertisement columns. Every duly qualified medical practitioner, born after April 18th, 1862, who is a reservist, either by virtue of the Military Service Acts 1916–18 or by virtue of voluntary attestation, is required to report himself for medical examination on receiving a notice to do so, and to report himself for the purpose of joining the Colours if and when he receives a calling-up notice. *Individual notice will be sent to each practitioner* to present himself for medical examination, and no practitioner will be called up until he has received a further notice from the Director-General of National Service specifying the time for the making of an application for a certificate of exemption and until any such application has been disposed of by the medical tribunal. No application for exemption can be made until this further individual notice has been received by the practitioner.

POST-GRADUATE TEACHING AT THE MAUDSLEY NEUROLOGICAL CLEARING HOSPITAL.

The establishment of neurological hospitals for the treatment of soldiers suffering with shell shock and war neuroses throughout the country is an important step in reconstruction; for it is recognised that a large number of soldiers who are incapacitated by war neurosis can be cured by suitable treatment.

The essential condition for treatment is correct diagnosis. The earlier the treatment of these functional neuroses (especially of the hysterical manifestations) is undertaken, the easier is a cure effected. It has been calculated that one-third of the whole of the unwounded soldiers discharged from the Army belong to the group of functional neuroses.

Hitherto, hysterical contractures and paralyses of the most varied kind have been discharged and are receiving pensions, and unless something is done to prevent this a great and unnecessary expenditure of public money will occur, for the longer these functional disabilities are permitted to remain the less curable they become.

Dr. Addison, the Minister of Reconstruction, has been fully alive to the importance of this matter, recognising that it was not only doctors serving in the Army who are likely to have the care and treatment of these cases in the neurological hospitals, and who, in the interest of the State, require instruction in the methods of diagnosis and treatment, but also civilian medical men, especially panel doctors, among whose patients there will be for years to come large numbers of soldiers suffering with uncured neuroses or relapses brought on by emotional shock of a varied kind, even such as domestic and financial worries. The war, indeed, will leave for a considerable time a widespread emotivity in the population, which, unless care is taken, will be fostered by misplaced sympathy and reinforced by the idea of a pension for life. For this reason Lieutenant-Colonel Mott, after a consultation with Dr. Addison and the Director-General, proposes to institute at the Maudsley Hospital a course of instruction to a limited number of civilian doctors and temporary R.A.M.C. officers interested in war neuroses and shell shock.

The course will consist of lectures and practical instruction in the causation, diagnosis, prognosis, and treatment of functional diseases of the nervous system due to the war.

Members joining the course will be afforded the opportunity of examining cases, writing reports thereon, and treating them under the direction of Lieutenant-Colonel Mott or officers associated with him.

Application to attend the course should be made to Brevet Lieutenant-Colonel F. W. Mott, Maudsley Neurological Clearing Hospital, Denmark Hill, S.E. 5. Fuller details will be decided later after a consultation with those wishing to attend this course of instruction.

THE INTER-ALLIED CONFERENCE ON THE AFTER-CARE OF THE DISABLED EX-SERVICE MAN.

The Second Inter-Allied Exhibition and Conference on the Care of Disabled Sailors and Soldiers was opened on Whit-Monday, May 20th, on behalf of H.M. the King, by H.R.H. the Duke of Connaught, who welcomed the delegates in an eloquent French speech. For the delegates Dr. Bourrillon, President of the Permanent Committee in Paris; Professor Enrico Burci (Italy); and Lieutenant-Général Melis (Belgium) replied.

The exhibition, which remains open during the week, is well arranged and representative; it includes exhibits from Italy, Belgium, France, Serbia, the United Kingdom, Canada, Australia, New Zealand, and South Africa. The exhibits illustrate the medical and educational work of the various kinds of military hospitals, Allied, Colonial, and British; they give examples of the work done at such centres as California and Kitchener Houses by patients still under hospital régime, Queen Mary's Workshops for Limbless Men (Brighton), the Eastbourne Technical School, and private firms. An exhibit of the work of prisoners of war in Switzerland is included. A picturesque touch is added by the Welsh costumes of the ladies in charge of the Vale of Clwyd rural industries. Disabled men are seen working at tailoring, jewellery making, and diamond polishing. One of the most popular features is the cinema display by the Allied and British representatives. The pictures show the disabled man undergoing treatment and training; an American film illustrating the ease with which a man who has lost his right hand can carry out the actions of daily life should be very encouraging to the disabled man. Films are shown illustrating the amputation devised by Professor V. Putti, the Italian orthopædic surgeon. In this form of amputation muscular projections covered by skin extend beyond the stump; these actuate rings on chains and bring about movements of joints of artificial limbs. Visits have been paid by the foreign delegates to the institutions at Roehampton, St. Dunstan's, and Golders Green, and to see the work of the Shepherd's Bush and Battersea War Pensions Committees.

THE SERVICES.

ROYAL NAVAL MEDICAL SERVICE.

To be Temporary Surgeons: A. P. Robb, E. S. G. K. Vance, L. D. Porteous, H. O. Long.

ARMY MEDICAL SERVICE.

The undermentioned are appointed Honorary Physicians to the King: Lieut.-Col. L. W. Harrison, D.S.O., R.A.M.C., vice Col. (Hon. Surg.-Gen.) R. S. F. Henderson, C.B., ret. pay; Col. E. Eckersley, vice Surg.-Gen. T. M. Corker, C.B., ret. pay; Col. (now Major-Gen.) S. Macdonald, C.M.G., vice Surg.-Gen. Sir W. G. Macpherson, K.C.M.G., C.B., ret. pay.

The undermentioned are appointed Honorary Surgeons to the King: Major-Gen. (temp. Lieut.-Gen.) T. H. J. C. Goodwin, C.B., C.M.G., D.S.O., vice Col. (Hon. Surg. Gen.) S. Hickson, C.B., ret. pay; Col. E. M. Pilcher, D.S.O., vice Col. W. H. Horrocks, C.B., ret. pay.

Temp. Col. Sir J. P. Stewart, K.C.M.G., C.B. (Capt. R.A.M.C., T.F.), relinquishes his temporary commission on re-posting and is granted the honorary rank of Colonel.

ROYAL ARMY MEDICAL CORPS.

Majors to be Lieutenant-Colonels: W. K. Steele, J. Clerke, J. H. P. Graham.

To be acting Majors: Temp. Major C. H. Miller; Capts. R. A. Flood, E. Percival, A. Renshaw; Temp. Capts. C. H. S. Webb, J. W. Dew, A. C. T. Woodward, C. W. G. Bryan, A. L. Lockwood, H. W. Gabe, T. T. Higgins, J. McL. Pinkerton, G. C. Timpson, (Lieut.) C. McN. McCormack, F. R. Thornton, (Lieut.) C. J. O'Reilly, H. R. MacIntyre, W. G. Johnson, T. P. Cole, D. H. Russell, J. Greene, H. Upcott, R. V. Dolbey, G. C. Chubb, W. E. Gemmell, P. J. Chissell, H. Hodge, R. Millar, A. A. Miller, L. F. Hemmans, J. C. L. Day.

Temp. Capt. V. B. Kyle relinquishes the acting rank of Major on re-posting.

H. C. C. Rennie, late temporary Captain, is granted the honorary rank of Captain.

Temp. Lieut. B. C. W. Pasco to be temporary Captain.

To be Lieutenants: A. G. McColl, A. Piney, J. G. Lawn, H. A. Chodak, M. Chalmers, A. Kennedy.

Officers relinquishing their commissions:—Temp. Capts. C. W. Walker, H. C. Davies, E. W. Lynch, R. Buchanan, H. K. Graham-Hodgson (on account of ill-health contracted on active service, and is granted the honorary rank of Captain); Temp. Lieuts. H. S. Johnston, W. N. Eustace, J. K. Thompson, C. L. Traylen (on account of ill-health, and is granted the honorary rank of Lieutenant), K. B. Allan, C. Beards (on account of ill-health, and is granted the honorary rank of Lieutenant); Temp. Hon. Lieut. O. C. Snyder.

CANADIAN ARMY MEDICAL CORPS.

Temporary Captains to be temporary Majors: H. C. Dixon, W. L. Whittemore, H. M. Nicholson, K. E. Cooke, C. A. Baragar, W. H. Eagar, G. F. Stephens. Temp. Capt. R. R. Barker to be acting Major.

Temp. Capt. R. H. Malone relinquishes his commission on appointment to the Indian Medical Service.

ROYAL AIR FORCE (MEDICAL BRANCH).

A. A. Bisset is granted a temporary commission as Captain.

G. H. Warner is granted a temporary commission as Lieutenant.

SPECIAL RESERVE OF OFFICERS.

Captains to be acting Majors: J. G. Romaldson, H. W. Maltby, R. L. Newell, D. Mackie, C. D. M. Buckley, T. O. Graham, H. R. Friedlander, G. H. Stevenson, R. P. A. Kirkland, H. D. Rollinson, W. C. B. Meyer, W. Johnson, G. Marshall.

Obituary.

JOHN COUPER, M.D. GLASG., F.R.C.S. ENG.,

CONSULTING SURGEON TO THE LONDON HOSPITAL.

BY the death of Mr. John Couper there has passed away one of the earliest protagonists of antiseptic surgery in London. A student, in Glasgow, of Lister, Mr. Couper introduced the antiseptic system at the London Hospital some years before Lister himself brought it to King's College. Of ancient lineage north of the Tweed (where our familiar patronymic "Cooper" is commonly spelt as he spelled it), Mr. Couper was the son of Dr. John Couper, professor of materia medica in the University of Glasgow, and was born in the University town, Nov. 7th, 1835. Upon the death of his father in 1855 he went to Paris to perfect his knowledge of French and then returned to Glasgow to complete his medical training at the parent University of St. Mungo. He graduated in 1858, having had the advantage of learning anatomy and physiology from Dr. Allan Thompson. He then came to London and continued his anatomical study at University College under Professor Ellis. Later he went to Berlin and studied surgery under Langenbeck. He then returned to London, and largely through the influence of Professors Ellis and Sharpey he was appointed demonstrator of anatomy at the London Hospital Medical College. He also turned his attention to ophthalmology and became assistant to Mr. Critchett, of the London Ophthalmic Hospital. His researches in ophthalmoscopy enabled him in 1883 to produce a "magazine ophthalmoscope," which facilitated the measurement not only of errors of refraction, but of degrees of astigmatism. At the London Hospital his career was one of unswerving and upward progress. From being demonstrator of anatomy he became lecturer upon the same subject, and from being assistant surgeon he became full surgeon, a post he held with honour to himself, benefit to his pupils, and credit to the hospital, until by the time rule he was placed upon the consulting staff.

Upon retiring from active practice he went first to Ellesborough, a beautiful place upon the Chiltern Hills overlooking the Vale of Aylesbury, but subsequently lived at Falmouth, where he died on April 30th and where he is buried. He was not a voluminous writer and confined his literary output to occasional papers in the Proceedings of medical societies, of many of which he was a member. He leaves a widow, three daughters, and one son, Colonel Duncan Campbell Couper, R.E., now with H.M. Forces at the Western Front.

CHARLES HERVÉ GIRAUD, M.R.C.S. ENG.,

SURGEON MAJOR-GENERAL, A.M.S. (RETIRED).

Surgeon-General Giraud, who died as the result of an accident in the Fulham-road on May 10th, was born at Sevenoaks in 1834. He received his medical education at St. George's Hospital, which he entered in October, 1854. Qualifying M.R.C.S Eng. in 1858, he joined the Army Medical Service and served at first as assistant surgeon on the staff. Soon, however, he was appointed to the 31st Regiment of Foot (the Huntingdonshire Regiment), now merged into the East Surrey Regiment. He became surgeon-major in 1873, brigade surgeon in 1887, deputy surgeon-general in 1889, and surgeon major-general in 1894, being placed on half-pay in 1896. He saw much active service, serving in the Mutiny with a flying column in the North-West Provinces, 1858–59. He was present at Sissaghat and had the medal. In 1860 he was in China with the 31st Regiment, and was present at Sinho and Taku, for which he had the medal with clasp for the Taku forts. From 1863–64 he served against the Taepings, and was present at the storming of Kahding, Najow, Tsinpoo, and Nansiang. In 1879 he served with the 2nd Brigade in the Zulu War, and subsequently was P.M.O. to Clarke's column. He had the South African 1879 1881 medal with clasp. His death was the result of an accident; an A.S.C. motor lorry, in avoiding a lady cyclist, mounted the pavement and knocked him down.

THE LATE COLONEL F. M. SANDWITH.

WRITING from the Near East, Colonel A. H. Tubby, A.M.S., sends an eloquent tribute to the memory of Colonel Sandwith, his colleague in Egypt for nearly two years, dealing among other things with Sandwith's admirable work at Alexandria. We published an obituary notice of Professor Sandwith in THE LANCET of March 2nd.

Sandwith arrived in Egypt on the last day of 1915. It was recognised that he was peculiarly fitted to be consulting physician to the forces in Egypt because of his long tenure of the professorship of medicine at Kasr-el-Ainy Medical School in Cairo, his profound knowledge of tropical diseases, and his attainments in Arabic and French. Immediately at hand was the problem of a furious outbreak of dysentery, and working in conjunction with his friends, Colonels Andrew Balfour and Melvill and Lieutenant-Colonels Wenyon and Ledingham, he set to work to clarify our knowledge of the disease and its varieties. Few of us will forget the memorable debates at the Alexandria Military Medical Society. Here Sandwith attended unremittingly, and his concise, humorous criticisms and apt suggestions did much to stimulate and maintain interest.

The epidemic diseases, which are rife in Alexandria and recur seasonally, are traceable largely to the swarms of flies which infest the city; and, in a very short time after his arrival, Sandwith attacked this problem. He initiated and set on foot a most vigorous anti-fly campaign. Efforts were successfully made by lectures to instruct every officer and man in the command in the life-history and habits of the house-fly and the means at hand to abate the plague. Sandwith spared himself not one whit, giving at least six lectures, some in the evening at far out-lying camps, and he drew up posters in simple and direct language, which were ordered to be read weekly on parade. In this and all other matters of sanitary importance he was ably supported by the officials of the Alexandria Municipality.

Speaking of Sandwith's personal qualities, Colonel Tubby says:—

The one thing which evoked his displeasure was meanness, either of thought or action. He was a great gentleman, an invaluable friend, a tower of strength in time of trouble, and never spared himself if in any way he could alleviate the sufferings and sorrows of those around him.

Mr. T. Alexander Cook, of Messrs. Edward Cook and Co., Limited, of Bow, London, who was for some years chairman of the West Ham (now Queen Mary's) Hospital, and during whose tenure of office many additions and improvements in the institution were carried out, died on Wednesday, May 8th, and was buried at All Saints, Chigwell Row, on the following Tuesday. Mr. Cook took a keen interest in the hygienic surroundings of his workers at Bow, and the "cofectant" preparations of the firm are evidence of the diligence of his investigations towards an ideal disinfectant.

THE BELGIAN DOCTORS' AND PHARMACISTS' RELIEF FUND.

SUBSCRIPTIONS TO THE SECOND APPEAL.

THE following subscriptions and donations to the Fund have been received during the week ending May 18th:—

	£	s.	d.		£	s.	d.
Dr. Andrew T. Ross ...	1	1	0	Dr. J. N. Gardiner ...	1	1	0
X.Y.	1	0	0	Dr. Henry Whitehouse (also 10s. monthly) ...	1	1	0
Dr. Reid	1	1	0	"Subscriber"	0	10	0
Dr. S. G. Sloman	5	0	0	Dr. Geo. McIntyre ...	2	2	0
Dr. Mary A. Smith ...	0	10	6				
Dr. J. S. Fraser	1	1	6				

Subscriptions to the Fund should be sent to the treasurer of the Fund, Dr. H. A. Des Vœux, at 14, Buckingham Gate, London, S.W. 1, and should be made payable to the Belgian Doctors' and Pharmacists' Relief Fund, crossed Lloyds Bank, Limited.

Professor Leonard E. Hill is not lecturing on "How Open Air Acts on Health" at the Royal Institute of Public Health on July 3rd.

DONATIONS AND BEQUESTS.—The late Dr. Henry Maudsley has by will directed that, if not already paid, the sum of £10 000 which he had promised to the London County Council for the establishment of the "Maudsley Hospital," should be paid by his trustees. He also left £2000 to the Medico-Psychological Society of Great Britain.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Whitsun Recess.

BOTH Houses of Parliament adjourned on Thursday, May 16th, to meet again on Tuesday, May 28th.

HOUSE OF COMMONS.

WEDNESDAY, MAY 15TH.

Promotion in the R.A.M.C. (Territorial Force).

Sir F. BLAKE asked the Under Secretary for War whether a general seniority roster for officers, Royal Army Medical Corps (Territorial Force) had now been formed; whether promotion was by seniority or selection; if by the latter, what was the composition of the selection board; and whether he could give the length of service, Volunteer and Territorial, of the six senior officers on the roster, with the lengths of service of each in his present rank.—Mr. MACPHERSON replied: A general seniority list of officers of the Royal Army Medical Corps (Territorial Force) is now in existence, but its publication is dependent on certain alterations in establishment which have not yet been finally approved. Promotion will be by selection from among senior officers who have been recommended by general officers commanding-in-chief and approved by the Army Council. As regards the last part of the question there are, of course, separate lists for the several ranks, and a list as proposed would be of little value unless each rank was specified. In view of the fact that promotion will be by selection tempered by seniority, I am afraid that the information would be misleading in regard to the possibilities of promotion of the officers concerned.

Sir F. BLAKE: Is the honourable gentleman aware that some of these officers have 20 to 30 years' service to their credit and some of them have been for upwards of ten years in their present rank?—Mr. MACPHERSON: I am aware of that and I am hopeful that the answer I have given will remedy these hard cases.

Children's Allowances for R.A.M.C. Officers.

Mr. P. A. HARRIS asked the Financial Secretary to the War Office whether, now that doctors up to 55 were liable to military service, doctors serving under contract would be entitled to the same allowance for each child as ordinary military doctors, seeing that, though they got higher pay, they drew no allowance.—Mr. FORSTER answered: These doctors are at present eligible for half the full rates. It is not proposed to disturb this.

Medical Service of the Air Force.

Sir H. GREENWOOD asked the Under Secretary to the Air Ministry how often the Medical Committee of the Air Force had met, and whether the Director-General of the Naval Medical Service and the Director-General of the Army Medical Service were present at such meetings.—Major BAIRD answered: The Medical Administrative Committee of the Air Force has met on four occasions. The Director-General of the Naval Medical Service was present at three of the meetings. The Director-General of Army Medical Services was present at the first two meetings, and sent representatives to the other meetings.

Sir H. GREENWOOD asked whether the Air Ministry had obtained sanction from the Treasury for the salaries of three members of the committee, in accordance with the plans laid down.—Major BAIRD replied: I presume my honourable friend is referring to the Medical Administrative Committee, and in that case the answer is in the affirmative.

Mr. JOYNSON-HICKS asked whether the medical committee had arranged for the inspection of aerodromes; if so, how many aerodromes had been inspected; whether they themselves had made any such inspections, and generally whether, in accordance with the scheme, they had determined the requirements, administrative, professional, and scientific, for the medical service of the Air Force; and whether they were convinced that these requirements were now being properly met.—Major BAIRD said in reply: The Medical Administrative Committee has arranged for the inspection of aerodromes. These inspections are being carried out by 11 senior medical officers of the Navy and Army lent to the Royal Air Force. Reports have already been received from them on nearly all the aerodromes at which flying takes place. All possible steps are being taken to meet the requirements for the medical service of the Air Force.

Mr. JOYNSON-HICKS: Is the Army Council satisfied with the existing conditions of the medical service of the Air Force?—Major BAIRD: Every possible help is being received in this matter and we are making very great progress.

Sanatorium Treatment at York.

Mr. ROWNTREE asked the President of the Local Government Board whether he had received a communication from the York National Health Insurance Committee calling attention to the impossibility of finding suitable local accommodation for sanatorium patients, and urging the immediate sanctioning of the City Council's Gate Helmsley scheme; whether he was aware that there was a long list of waiting patients; and what he proposed to do in the matter in view of the fact that the council was unable to find another site.—Mr. HAYES FISHER replied: The answer to the first part of the question is in the affirmative. One of the medical inspectors of my department has conferred with the representatives of the town council on the subject of the further provision for the treatment of tuberculosis in York, and his report is now under consideration.

Rations under Medical Certificate.

Mr. WATT asked the Parliamentary Secretary to the Ministry of Food whether he was aware that when extra food rations were asked for under medical certificates from local food committees in Scotland the invalids were requested to communicate with 29, Upper Grosvenor-street, London; that the minimum time for a reply to such request was three days, and the average time 10 days; that cases had been known where the patients had succumbed before Upper Grosvenor-street found time to reply; and whether, in these circumstances, local food committees in Scotland would be granted power to give extra rations under medical certificates.—Mr. CLYNES answered: The Food Controller has been largely guided by the medical advisers to the Ministry of Food in deciding how such applications should be dealt with. Food control committees already have power to grant extra rations in the case of certain diseases, and steps are about to be taken as the result of experience that will enable local food offices to deal with a larger number of cases without reference to London.

Endowment of Maternity.

Mr. RENDALL asked the Minister of Reconstruction whether the endowment of maternity, which was practically now provided for numbers of mothers by reason of separation and dependents' allowances paid to soldiers' wives, had called his attention to the consequential advantages to such mothers and their offspring; and whether, having regard to the cessation of these payments on the termination of war and the then greater needs on grounds of health and the economic desirability of not forcing married women into the labour market, he proposed to appoint a committee to consider and report upon this matter.—Mr. DUDLEY WARD (on behalf of Dr. Addison) answered: The problems referred to in the question have for a considerable time been engaging my attention with a view to the formulation of practical proposals. At the present stage I do not think that my honourable friend's suggestion would be the best means of securing further progress.

THURSDAY, MAY 16TH.

Army Medical Services.

Major D. DAVIES asked the Under Secretary for War whether it was proposed to appoint a committee of inquiry into the Army medical services in this country and in the Eastern theatres of war with a view to the better utilisation of the services of medical men in the Royal Army Medical Corps.—Mr. MACPHERSON replied: The answer is in the negative.

Major DAVIES asked whether the recommendations contained in the report of the Committee appointed to inquire into the medical services in France contained any proposals for the reorganisation of the service with a view to utilising to the fullest degree medical officers who were at present serving in the Royal Army Medical Corps; and, if so, whether he could now state the reasons for withholding the publication of this report to Parliament.—Mr. MACPHERSON: I am afraid that I can add nothing to my previous replies on this subject.

Treatment of Tuberculous Soldiers.

In reply to Major D. DAVIES, Sir A. GRIFFITH-BOSCAWEN (Parliamentary Secretary to the Ministry of Pensions) said: The responsibility for the treatment of discharged disabled men suffering from tuberculosis rests primarily with the Insurance Commissioners and Insurance Committees under the National Health Insurance Acts. No special arrangements have been made with the Welsh National Memorial Association other than arrangements for payment in cases of advanced tuberculosis accommodated in sanatoria. In view of the fact that the Welsh National Memorial Association has recently been able to make provision for cases from England there would not appear to be any difficulty in securing accommodation for discharged men in Wales. If evidence of such difficulty is brought to my notice I shall be glad to make representations to the proper quarter.

A Ministry of Health.

Mr. BOOTH asked the Minister of Reconstruction upon what ground the question of a State Medical Service was regarded as a forbidden subject in considering a Ministry of Health; and whether he was aware that many of the workers under the National Health Insurance Acts were desirous of having the above proposal thoroughly examined with a view to remedying some large and serious evils.—Dr. ADDISON answered: The negotiations to which the honourable member refers were limited to the discussion of the redistribution of the functions of central departments in relation to health services. The question of a State Medical Service would not therefore have been relevant to the proceedings.

Mr. BOOTH asked the right honourable gentleman whether he had completed his negotiations with the various interests who wished to press personal and other claims in connexion with the proposed Ministry of Health; whether the principal posts had now been conditionally allocated; and if the way was clear for the proposals to be discussed in public so that the interests of the millions of people concerned could be safeguarded.—Dr. ADDISON replied: The negotiations referred to have been completed, and there was no disposition on the part of those concerned with the negotiations to suggest that personal claims entered into the important matters under consideration. The second part of the question does not, therefore, arise, and I am not in a position to make any statement in regard to the third.

Medical News.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.—At a meeting of the College on May 16th the following, having passed the requisite examinations between Jan. 7th and 9th, were admitted Fellows: Captain Joseph John Armistead, R.A.M.C.; Wendell Thomas Garretson, Edinburgh; Samuel Green, Norwich; Ernest William Lewis, Southport; Vasudeo Dinkar Nimbkar, Leeds; Edward Hesketh Roberts, Mold, N. Wales; and Arthur Lowndes Yates. At the same meeting the Bathgate Memorial Prize, consisting of bronze medal and books, was, after a competitive examination in materia medica, awarded to Miss Janet Adeline Agnes Sang.

PARLIAMENTARY REPRESENTATION OF THE NATIONAL UNIVERSITY OF IRELAND.—Captain J. C. McWalter, R.A.M.C., a member of the Senate, informs us that he will stand provisionally as Parliamentary candidate for the University. He is an alderman of the City of Dublin and was chairman of the Dublin Insurance Committee when he joined the Army. While on active service he was appointed chairman of the Dublin Public Libraries Committee, of which the secretary of the Gaelic League is deputy chairman. It is anticipated that a Sinn Fein candidate will also contest the seat.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED: ANNUAL GENERAL MEETING.—The annual general meeting of the London and Counties Medical Protection Society was held at the offices of the society, 32, Craven-street, Strand, W.C., on May 15th. Colonel E. C. Bensley, chairman of Council, presided, and in proposing that the annual report and balance-sheet be received and adopted, said that notwithstanding that shortage of paper had prevented free circulation of documents, the number of applications from medical members for advice and assistance during the year 1917 was almost exactly the same as in the previous year, while the financial position of the society continued to grow stronger. The balance of profit in the profit and loss account for the year was higher than usual, and the Council had written down the values of the society's investments to the low market prices quoted at the end of 1917, notwithstanding which the value of the investments stood at over £20,000, or about £2000 higher than at the end of 1916. Though the administration of the National Health Insurance Act had given rise to many applications from members for help and protection, the society had profited by the diminished litigation which has been general throughout the country since the war began. Various claims for damages for alleged negligence in the treatment of patients had been satisfactorily disposed of, none of them being taken into court. He concluded by acknowledging the debt of the society to Messrs. Le Brasseur and Oakley, the solicitors, to an energetic council, to Dr. Hugh Woods and to Major A. G. R. Foulerton, respectively the general and financial secretaries. The report and balance-sheet being unanimously adopted, Major-General Sir John Rose Bradford was re-elected President of the society, the general and financial secretaries were re-elected, and Major C. M. Fegen was re-elected treasurer, a tribute being paid to the services of Dr. C. O. Fowler, who had acted as treasurer during Major Fegen's absence.

ROYAL INSTITUTION.—The concluding Friday evening discourses at the Royal Institution are as follows: On May 24th, Lieutenant-Colonel A. G. Hadcock, R.A., F.R.S., on Internal Ballistics; on May 31st, Lawrence Binyon on Poetry and Modern Life; on June 7th, Sir Boverton Redwood on the Romance of Petroleum.

DEMONSTRATIONS ON VENEREAL DISEASE.—A course of six demonstrations and discussions on venereal disease will be held in the laboratories of the Royal Institute of Public Health on Wednesday afternoons from May 29th to July 3rd, at 2.30 P.M. The first demonstration, on May 29th, will be by Professor E. W. Hope on Suggested Schemes for the Organisation and Administration of Services to deal with Venereal Diseases, with Dr. F. N. Kay Menzies in the chair. The other five demonstrations will be announced in our Diary. The course is open to medical officers of health, doctors in charge of venereal disease departments, medical practitioners, sanitarians, and others engaged in public health work. Particulars on application to the secretary, 37, Russell-square, London, W.C.1.

MIDWIVES' BOARD FOR IRELAND.—The constitution of the various Midwives' Boards in England, Scotland, and Ireland is arranged differently. In Ireland, instead of the universities and colleges appointing representatives, a more democratic plan has been evolved by which the whole medical profession is to elect four representatives on the Central Midwives Board which is about to be formed. At a meeting of the Irish Midwives Act Committee, held on May 14th at the Royal College of Surgeons, Dublin, it was decided to put before the profession the following four gentlemen as candidates for election—Sir Andrew Horne (chairman of the committee), Dublin; Sir W. J. Smyly, Dublin; Sir John Byers, Belfast; and Professor H. Corby, Cork.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 1, Wimpole-street, W.1.

Wednesday, May 29th.

DISCUSSION BY THE FELLOWS: at 5 P.M.

Subject:

"The Future of the Medical Profession under a Ministry of National Health."

The President, Sir Rickman Godlee, will preside, and the Discussion will be opened by Sir William Osler, who will be followed by Mr. E. B. Turner, Dr. John C. McVail, and others.

MEETINGS OF SECTIONS.

Tuesday, May 28th.

MEDICINE (Hon. Secretaries—Charles R. Box, W. Cecil Bosanquet): at 5.30 P.M.

Annual General Meeting.—Election of Officers and Council for 1918–1919.

Friday, May 31st.

OTOLOGY (Hon. Secretaries—Somerville Hastings, J. F. O'Malley): at 5 P.M.

Cases and Specimens at 4.15 P.M.

Annual General Meeting.—Election of Officers and Council for 1918–1919.

Cases:

Mr. Herbert Tilley: A Series of Consecutive Cases of Acute Mastoid Suppuration treated by B.I.P., with Immediate Closure of the Post-aural Wound.

Cases will also be shown by Dr. Dan McKenzie, Mr. E. D. Davis, and others.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

Clinics each week-day at 2 P.M., Wednesday, Friday, and Saturday also at 10 A.M.

(Details of the Post-Graduate Course were given in the issue of April 27th.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

Out-patients each day at 2.30 P.M.

(Details of the Post-Graduate Course were given in the issue of April 6th.)

ROYAL INSTITUTE OF PUBLIC HEALTH, in the Lecture Hall of the Institute, 37, Russell-square, W.C.

Course of Lectures and Discussions on Public Health Problems under War and After-war Conditions:—

WEDNESDAY, May 29th.—4 P.M., Lecture V.:—Prof. S. Delépine: The Conservation of Milk. Followed by a Discussion.

In the Laboratories of the Institute.

Course of Special Demonstrations and Discussions on Venereal Disease in connexion with the work of the Venereal Diseases Department:—

WEDNESDAY.—2.30 P.M., Demonstration I.: Prof. E. W. Hope: Suggested Schemes for the Organisation and Administration of Services to deal with Venereal Diseases.

COLLEGE OF AMBULANCE, 3, Vere-street, Cavendish-square, W.

Course of Special Lectures and Demonstrations on Ambulance Work and First Aid (illustrated as far as may be possible and followed by a Discussion).

THURSDAY, May 30th.—4.30 P.M., Lecture III.:—Dr. W. J. O'Donovan: Ambulance, First Aid, and Welfare Work in Factories.

Appointments.

KAUL, S. N., M.B., Ch.B. Edin., has been appointed Resident Surgeon, and NIMBKAR, V. D., F.R.C.S.Ed., Resident Surgical Officer, to the Birmingham and Midland Eye Hospital.

NORINSKI, ESTER, M.R.C.S., L.R.C.P., House Surgeon to the Royal Free Hospital.

Vacancies.

For further information refer to the advertisement columns.

Birkenhead Borough Hospital.—Honorary Appointments.
Birmingham and Midland Eye Hospital.—H.S. £200.
Bradford City.—Temp. Female Asst. School M.O.
Bradford Poor-law Union.—Asst. M.O. £500.
Brighton, Royal Sussex County Hospital.—Jun. H.S. £80 and war bonus.
Bristol, Clifton Dispensary.—Res. M.O. £200.
Bristol Royal Infirmary.—H.P. and H.S. £120.
Bury Infirmary, Lancashire.—Jun. H.S. £200.
Buxton, Derbyshire, Devonshire Hospital.—Gen. Supt. and Sec. £350.
Cambridgeshire, Isle of Ely, and Borough of Cambridge Lunatic Asylum, Fulbourn.—Res. Med. Supt. £600.
Cardiff, King Edward VII.'s Hospital.—Female H.S. £200.
Carlisle Non-Provident Dispensary.—Res. M.O. £250.
Chelmsford, Administrative County of Essex.—Tuberc. Officer. £500.
Chesterfield and North Derbyshire Royal Hospital.—Jun. H.S. £150.
Derby County Council, Maternity and Child Welfare.—Female M.O. £400.
Derby, Eggington War Hospital.—H.S. £315.
Devonport, Royal Albert Hospital.—Res. H.S. £200.
Durban, Natal Corporation.—Female M. Pract. £600.
Evelina Hospital for Children, Southwark, S.E.—H.P. and H.S. £160.
Hammersmith Tuberculosis Dispensary.—Tuberc. Officer. £500.
Hereford County and City Asylum, Burghill.—Temp. Asst. M.O. 7 gns. per week.
Hospital for Consumption, Brompton.—H.P. for 6 ms. 30 gs.
Hospital for Sick Children, Great Ormond-street, W.C.—H.S. £100.
Leith Town Council.—Female M.O.
Lincoln City.—Temp. Asst. M.O.H. £400.
London Homœopathic Hospital, Bloomsbury, W.C.—M.O. in Charge of Physical Exercises Department.
London Hospital, E.—Asst. Aural Surg.
Manchester Children's Hospital, Pendlebury.—Res. M.O. £200.
Manchester Children's Hospital, Gartside-street.—M.O. £200.
Manchester City Sanitary Committee.—Female M.O. £400.
Manchester Corporation.—Temp. Asst. Tuberc. Officer. £450.
Manchester County Hospital, Prestwich.—L.T. £7 7s. per week.
Middlesex Hospital, W.—Asst. Phys.
Netley, Welsh Hospital.—M.O. £400.
Northampton General Hospital.—Junior H.S. £150.
Pinewood Sanatorium, Wokingham, Berks.—Res. M. Supt. £500.
Plaistow Fever Hospital.—Female Res. M.O. £250.
Reading, Royal Berkshire Hospital.—H.S. £250.
Royal London Ophthalmic Hospital, City-road, E.C.—Asst. Surg. Also Sen. H.S. £150.
Stockport Infirmary.—Secretary-Superintendent. £325.
Walthamstow Urban District Council, Hospital for Infectious Diseases, Chingford.—Res. M.O. £325.
Wilts County Council Education Department.—Asst. School M.O. £400.

Births, Marriages, and Deaths.

BIRTHS.

BURDETT.—On May 18th, 1918, at 12, Charlotte-street, Bristol, the wife of Staff-Surgeon J. H. Burdett, R.N., of a son.

MUAT.—On May 16th, at Wei-Hai-Wei, North China, the wife of W. M. Muat, M.B., of a girl.

SCOTT.—On May 4th, at Fore-street, Edmonton, the wife of Alex. R. Prinski Scott, Lieutenant, R.A.M.C., of a son (stillborn).

STEVENSON.—On May 14th, at Edgbaston-road, Birmingham, the wife of Major G. H. Stevenson, R.A.M.C. (S.R.), of a daughter.

MARRIAGES.

DODSON—LINDSELL.—On April 30th, at G.H.Q. Chapel, Salonika, Captain Charles S. Dodson, R.A.M.C., to Nancy, second daughter of the late Colonel K. F. Lindsell, C.B., Gloucester Regiment.

JACKSON—FOSTER.—On May 14th, at Holy Rood, Stubbington, Captain J. L. Jackson, R.A.M.C., to Fanny Elizabeth, daughter of the late Montagu Foster and Mrs. Foster, The Lodge, Stubbington, Hants.

LESCHER—LLEWELLYN.—On May 15th, at St. James's Church, Spanish-place, W., Major Frank Graham Lescher, M.C., R.A.M.C., to Evelyn Mary Bridget, youngest daughter of Mr. and Mrs. Arthur Llewellyn, of Seabridge, Newcastle, Staffs.

WAY—PELISSIER.—On May 20th, at All Saints, Childs-hill, Major Cyril James Berkeley Way, M.C., R.A.M.C. (S.R.), to Phillis Barbara, younger daughter of Mr. and Mrs. F. S. Pelissier, of Golders-green, N.W.

DEATHS.

SARGENT.—On May 14th, Lieutenant-Colonel Alfred George Sargent, I.M.S.

WARE.—Killed in action on April 29th, Private Alfred Thomas Ware, R.A.M.C.

WILKINSON.—On April 18th, Arthur W. Wilkinson (in France from wounds received in action), Captain, West Yorkshire Regiment, aged 34 years.

N.B.—A fee of 6s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

EDITORIAL NOTICES.

In consequence of the pressure on our space and the shortage of paper, the Editor may be compelled to abbreviate communications, as an alternative to their rejection, when time does not allow them to be reconsidered by their authors.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Offices: 423, STRAND, LONDON, W.C. 2.

Communications, Letters, &c., to the Editor have been received from—

A.—Capt. A. Abrahams, R.A.M.C.; Australian Imperial Force, Lond., D.M.S. of; Messrs. Thos. Agnew and Sons, Lond.

B.—Board of Agriculture and Fisheries, Lond.; Mr. G. Brander, Cupar Fife; Dr. C. H. Browning, Lond.; Capt. H. T. H. Butt, R.A.M.C.; Capt. W. G. Ball, R.A.M.C.; British Red Cross Society, Lond.

C.—Dr. F. G. Crookshank, Lond.; Chicago School of Sanitary Instruction; Combined Universities Conservative and Unionist Association, Lond., Hon. Sec. of.

D.—Mr. P. Dunn, Lond.

E.—Mr. D. L. Eadie, Edinburgh; Mr. W. Eugster, St. Gallen.

F.—Messrs. Henry Frowde and Hodder and Stoughton, Lond.; Mr. E. J. Fehily, Ballineen.

G.—Mr. J. W. G. Grant, Cardiff; Mr. D. V. Giri, Eastbourne; Mr. H. Gibbs, Stratford-on-Avon; Dr. W. Gordon, Exeter; Col. J. Griffiths, R.A.M.C.

H.—Mr. C. Higgens, Lond.; Capt. W. S. Handley, R.A.M.C.(T.); Lieut. R. H. Holroyd, R.A.M.C.; Lieut. E. Hughes.

I.—Insurance Committee for the County of London; Dr. E. C. B. Ibotson, Shrewsbury; Illuminating Engineering Society, Lond.

J.—*Journal of the American Medical Association*, Chicago.

K.—King Edward's Hospital Fund for London, Hon. Secs of; Dr. J. Kirk, Edinburgh; Dr. L. J. Kidd, Lond.

L.—Col. W. T. Lister, C.M.G., A.M.S.; London Units of the Scottish Women's Hospitals for Foreign Service; London and Counties Medical Protection Society, General Sec. of; Liverpool Medical Institution, Sec. of.

M.—Medico-Psychological Clinic, Lond., Sec. of; Capt. J. T. Morrison, R.A.M.C.; Dr. A. C. Morton, Aylsham; Dr. J. L. Martin, Chelmsford; Mr. G. Mayall, Bolton; Sir Henry Morris, Bart., Lond.; Surg.-Gen. Sir G. H. Makins, K.C.M.G., C.B., A.M.S.; Capt. J. C. McWalter, R.A.M.C.; Mr. J. Y. W. MacAlister, Lond.

N.—National Baby Week Council, Lond.; Sir George Newman, Lond.; National Union of Journalists, Lond.

O.—Sir William Osler, Bart., Oxford.

P.—Mr. S. Paget, Lond.; Panel Committee for the County of London.

R.—Royal Medical Benevolent Fund, Lond., Sec. of; Lieut. W. H. C. Romanis, R.A.M.C.; Dr. W. C. Rivers, Barnsley; Mr. W. Richards, Beckenham; Royal Institute of Public Health, Lond.; Mr. R. P. Ratnakar, Manchester.

S.—Dr. J. A. Sicard; Dr. J. D. Staple, Lyme Regis; Dr Samy Bey Sabongi, Cairo; Dr. H. Sharman, Lond.; Société de Chimie Industrielle, Paris; Dr. G. E. Shuttleworth, Lond.; Surg. H. Sutherland, R.N.

T.—Lt.-Col. W. Turner, R.A.M.C.

W.—Dr. J. A. Wilson, Warrington; Women's Co-operative Guild, Lond., General Sec. of; Capt. J. R. Williamson, R.A.M.C.; Col. Sir A. E. Wright, C.B.; Major R. Worth, R.A.M.C.; Surg. P. Wakeley, R.N.; Mr. W. Wilson, Birmingham.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C. 2, are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, May 22nd, 1918.

Date.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
May 16	...	127	70	55	59	66	Fine
,, 17	...	112	80	57	61	68	Fine
,, 18	0·13	85	74	59	61	67	Fine
,, 19	...	115	81	61	59	67	Fine
,, 20	...	119	80	59	57	64	Fine
,, 21	...	120	86	57	61	69	Fine
,, 22	...	121	84	64	63	71	Fine

Other information which we have been accustomed to give in these "Readings" is withheld for the period of the war.

Notes, Short Comments, and Answers to Correspondents.

RURAL FIRST-AID.

Sir James Cantlie was in his element at the College of Ambulance on May 16th, when he chose for the first of a series of lectures the subject of Ambulance Work and First Aid for the Agricultural Worker. He has long cherished the ambition of getting ambulance work in the wide sense proper recognition as a medical subject of the first rank, and he found a fascinating theme, which developed as he dealt with it, in the application of first principles to the hygiene and accidents of rural life. Dr. E. J. Russell, F.R.S., director of the Rothamsted Agricultural Laboratories, who presided at the lecture, showed how the passing of the farm horse and the introduction of motor power brought with them the inevitable speeding-up with its attendant risks, while the large and increasing numbers of educated women working on the land enhanced the responsibility of those who were concerned with their health and safety.

Sir James Cantlie refrained from touching on first-aid to cattle, as he hoped that at some future time Sir John McFadyean, principal of the Royal Veterinary College, would deal with the subject. So long as horses were still employed on the farm bites and kicks would occur, although, he said, even the townsman soon grasped the elementary fact that the horse always kicked behind, and that a man's head in direct line with the hoofs was asking for trouble; while the cow kicked sideways to protect its udder, and the safe place was behind. Transmission of glanders from the horse was an appreciable risk, he pointed out, and the symptoms of the disease should be known to all farm-workers. The cupboard of the country stable contained a number of poisonous substances used for cattle medicine and cleaning purposes; the yokel was apt to keep arsenic in the same kind of bottle as he kept his beer, and the corrosive acids, and alkalies used for cleaning needed to be known and recognised. If in spite of such knowledge accident occurred it was necessary to know the proper antidote to use, as the doctor's house might be miles away. In the harvest-field there was danger from drinking impure water and from the internal cramp induced by drinking copiously of icy water. Among the serious accidents of the farm were tears and bruises, the severance of limbs from careless use of machinery, poisoning from fungi and from toxic plants and berries. There were also dislocations through falling from horseback, conjunctivitis due to floating pollen, stings of bees and wasps, accidental shooting, and many other things which fully justified the need of increased attention to farm ambulance.

Having enumerated the risks, Sir James Cantlie went on to impress on his hearers the essentials of simplicity and improvisation, illustrating his points with the aid of assistants dressed as farm labourers. To deal with a severed artery in the leg caused by a scythe cut he reiterated his teaching that men should wear cross braces made of two strips of webbing, each available, if need be, as a tourniquet. Bleeding being stanched, the wound was dressed with the ashes of freshly burnt hay or of straw, paper or bracken, whichever was handy, paper took the place of lint; and two poles laced together with straw rope made a good stretcher. In urgency a hurdle could be used. With only two carriers available they stood astride the patient, placing their hands under his back and legs and transferring him on to the stretcher with a shuffling waddle. When three bearers were available the patient was lifted in the same way by two of them and the stretcher placed under him by the third. A bed could be improvised out of a wooden frame from the barn with a layer of bracken for the mattress. Shelter from wind or rain was afforded by tents supported by long-handled farm implements, such as rakes or hoes. A farm cart made an excellent ambulance wagon with the stretcher slung by ropes, avoiding all danger of jolt against the side of the cart. The webbing yoke used by women to carry milk pails, with its better distribution of weight, made it possible for them to act as stretcher-bearers, even climbing, if need be, over walls or other low obstructions should such be met while carrying the patient.

In Sir James Cantlie's hands rural first-aid has thus already attained some precision.

A NOTE ON THE DETERMINATION OF SEX.

WE have received the following observations on the determination of sex from Mrs. David McConnel, B.A.:—

It is now coming to be generally acknowledged that the cell which has resulted in the female must have been fertilised when the cell was in a vigorous condition. There are some important reasons to be found in statistical records for this deduction. The percentage of deaths of boys born prematurely exceeds that of girls born prematurely; more boys than girls die in infancy, especially in the first year; to insurance companies the life of the female is of more value than that of the male, women having greater longevity; but the most important reason is that tendencies to certain diseases are lost through the female, while certain unfavourable physical conditions are handed from mother to son, though not from mother to daughter, the premise being that the vigorous condition of cell which has produced the female has been able to throw off evil tendencies, whilst the less vigorous condition of cell which has produced the male has not been able to do so.

To obtain a female as result of fertilisation the human ovum must be fertilised when in its highest condition of vigour or rather at that stage when it contained its highest percentage of nourishment. How to gain a knowledge of the time when the cell would be in that condition and how to achieve the result was the question. Accident placed the data at my disposal. I knew absolutely of a girl born when insemination had taken place two days after the cessation of the period, and of a boy born when insemination had taken place five days after the cessation of the period, no other possibility having occurred until after the next period was overdue.

I made my own experiments, working upon these data, and got other women who were sufficiently interested in my theory to try it also. No experiments were made unless the conditions were normal—that is to say, 28 days between the periods, five days' period, and a normal flow. The theory was put into practice by the following method: For any given desired result only one act of insemination took place between two periods, either on the first or second days after the cessation of the period for girls, or on the fourth or fifth days after the cessation of the period for boys. All the experiments, faithfully carried out, resulted as desired, and the result is schematised in the table. The third day after the cessation of the period was never tried as being too uncertain of result.

Fourth and third days before period (unusual)	boys.
Second and first days before period	girls.
Five days: the period.	
First and second days after the period	girls.
Three days untested.	
Fourth, fifth, sixth, seventh, eighth days after the period ...	boys.
Eleven days when insemination has generally no result.	

"PRINTERS' INK IS RANK POISON."

THE toxic effect of printers' ink has undoubtedly been greatly exaggerated, and a famous old advertisement has this injustice to its discredit. Printers' ink, so far from being "a rank poison," may even possess slight antiseptic properties. We have received a communication from "H. G." animadverting on the wrapping up of fish and meat in cheap illustrated newspapers. The habit is, of course, not a nice one, but it is impossible to imagine any serious harm resulting from it. The materials of black printing ink are, at any rate, innocent enough, consisting usually of resin oil or linseed oil, resin soap, and lamp-black.

THE JOURNALS OF PHOTOGRAPHY.

Messrs. Iliffe and Sons, Limited, have acquired the *Amateur Photographer and Photographic News* and other photographic publications of Messrs. Hazell, Watson, and Viney, Limited. During the war it is proposed to publish the *Amateur Photographer and Photographic News* with Messrs. Iliffe's other photographic paper, *Photography and Focus*, the combined journal embodying the leading characteristics of both publications.

SOLDIERS' TRACTS ON VENEREAL DISEASES.

To the Editor of THE LANCET.

SIR,—During the past two years the Liverpool Medical Institution has distributed 250,000 copies of a pamphlet written in plain non-technical language for our young soldiers, warning them of the dangers and disabilities incurred by contracting these avoidable diseases. They have proved to be of great acceptance after lectures or talks to the men on these subjects. We desire to invite inquiry from C.O.'s, members of the R.A.M.C., chaplains, social workers who would care to have a number of copies sent for distribution. Letters addressed to the Librarian, Liverpool Medical Institution, will receive prompt attention.

I am, Sir, yours faithfully,

May 16th, 1918. WILLIAM JONES, Librarian.

The following journals, magazines, &c., have been received:—American Journal of Medical Sciences, Revista del Instituto Bacteriologico (Buenos Aires), Middlesex Hospital Journal, Archives of Radiology and Electrotherapy, Therapeutic Gazette, Veterinary Review, Surgery, Gynecology, and Obstetrics, Philippine Journal of Science, British Dental Journal, Boletin Oficial de la Secretaria, Sanidad y Beneficencia (Havana), Annales de la Facultad de Medicina (Lima).